

Improvement of Hudson River

LETTER

FROM

THE SECRETARY OF WAR .

TRANSMITTING

ALL CORRESPONDENCE AND DOCUMENTS, OR
COPIES OF DOCUMENTS, ON FILE IN HIS OFFICE
OR IN HIS POSSESSION, RELATING TO THE
ATTITUDE AND ACTION OF THE STATE OF NEW
YORK REGARDING THE CONDITIONS IMPOSED
UPON THE APPROPRIATION FOR THE IMPROVE-
MENT OF THE HUDSON RIVER :: :: ::



WASHINGTON
GOVERNMENT PRINTING OFFICE

1912

IN THE SENATE OF THE UNITED STATES,
July 31, 1912.

Resolved, That House Document No. 719, Sixty-first Congress, second session, together with Senate resolution No. 323, Sixty-second Congress, second session, and the response of Hon. Henry L. Stimson, Secretary of War, relative to the attitude and action of the State of New York regarding conditions imposed upon the appropriation for the improvement of the Hudson River, be printed, with accompanying illustrations, as a Senate document.

Attest:

CHARLES G. BENNETT,
Secretary.

OFFICE
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RESOLUTION REQUESTING TRANSMITTAL.

Resolved, That the Secretary of War be requested to transmit to the Senate all correspondence and documents, or copies of documents, on file in his office or in his possession, relating to the attitude and action of the State of New York regarding the conditions imposed upon the appropriation of one million three hundred thousand dollars for the improvement of the Hudson River, made by the act of June twenty-fifth, nineteen hundred and ten, together with any other information that it may be appropriate to transmit therewith.

LETTER OF TRANSMITTAL.

WAR DEPARTMENT,
Washington, June 7, 1912.

SIR: In response to Senate resolution dated May 29 ultimo, I have the honor to transmit herewith copies of all correspondence and documents on file in this department relative to the attitude and action of the State of New York regarding the conditions imposed upon the appropriation of \$1,300,000 for the improvement of the Hudson River, made by the act of June 25, 1910.

Very respectfully,

HENRY L. STIMSON,
Secretary of War.

The PRESIDENT OF THE SENATE.

HUDSON RIVER, NEW YORK.

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
New York City, July 2, 1910.

The CHIEF OF ENGINEERS, UNITED STATES ARMY,
Washington, D. C.

GENERAL: I have the honor to invite attention to the inclosed correspondence relating to the State lock and dam at Troy, N. Y.

In view of the legal complications in the case and of the absolute necessity for freedom of action for the United States in conducting the work of improvement of the upper Hudson at and in the vicinity of the State dam at Troy, it appears to me essential that such action be taken as may be necessary to have the existing lock and dam formally "abandoned" by the State of New York before entering upon the proposed work of improvement in that vicinity.

Although no formal notification of the availability of the appropriation has been received by me, the condition of having the Hudson open for navigation at the date of the opening of the Champlain Canal will require that the work be started with the least practicable delay.

As soon as the formal notification of the availability of the appropriation has been received, a formal recommendation will be made to you in the matter.

Very respectfully, your obedient servant,

W. M. BLACK,
Colonel, Corps of Engineers, United States Army.

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
New York City, June 10, 1910.

The SECRETARY OF THE CANAL BOARD,
State Hall, Albany, N. Y.

DEAR SIR: I am informed that the river and harbor bill has been passed by Congress and practically awaits the signature of the President to become a law. I am further informed that this bill contains provisions for entering upon the improvement of the upper Hudson, including the construction of a new lock and dam at Troy. The construction of this lock and dam will render necessary the removal of the old State dam and lock. It would be advisable, if not legally necessary, it seems to me, to have official action taken by the State authorities formally abandoning the existing State dam and lock, to take effect at such time as the United States may require, such action to be effective on one month's notification of the intentions of the United States to begin the work of the removal of the State dam.

Inasmuch as I have no official notification of the passage of the river and harbor bill, nor of the intention of the United States to build a lock and dam at Troy, this letter is unofficial. It is written solely in order that you may be able to take whatever action may be deemed necessary, in order that there may be no delay on the part of the United States from this cause in entering upon and completing this important work.

In the leases held by certain manufacturing establishments on the east and west banks of the river there is a condition as follows:

* * * The use of the surplus water which may be taken at the east end of the aforesaid dam, and not exceeding one-half of the quantity which may be taken at both ends of said dam, such surplus water to be taken and drawn from the said dam at such place and in such manner, and be discharged at such place and in such manner as the acting canal commissioner or the canal commissioners shall from time to time direct, saving and reserving to the said parties of the first part the right wholly to resume the waters hereby conveyed and the privileges hereby granted, and to control and limit the use of said water and privileges whenever, in the opinion of the canal board or of the legislature, the necessary supply of water for use of any State canal or the safety of such canal or works connected therewith shall render such resumption, control, or limitation necessary. And in case any such resumption shall be made, or control or limitation imposed, no compensation or damages shall be allowed for any improvements or erections made, or which may be made under or in consequence of this grant or lease. And also saving and reserving to the said parties of the first part the right, without making any compensation to the said parties of the second part or any other person claiming under them, wholly to abandon or destroy the work, by the construction of which the said surplus water has been created, whenever, in the opinion of the canal commissioners, the occupation and use of the said work shall cease to be advantageous to the State.

If for no other reason than to fulfill the condition of the termination of these leases on the part of the State, action by your board would seem to be necessary.

An early reply, giving your views on the matter, will be highly appreciated.

Very respectfully,

W. M. BLACK,
Colonel, Corps of Engineers, United States Army.

ALBANY, June 30, 1910.

Hon. W. M. BLACK,
Corps of Engineers, New York City.

DEAR SIR: Your communication of the 10th instant, which was addressed to the secretary of the canal board, was considered by the canal board at its last meeting and was referred to me. I beg to state that as to the question of disturbing the present dam and lock prior to the completion of the new structures provided for in the river and harbor bill, such action would render navigation on the canal in the interim impossible, and therefore it will become my duty to withhold my consent from any such program.

As to the other question propounded by you, that relating to the leases held by certain manufacturing establishments, the question is a legal one and has been submitted by me to the attorney general for an opinion. I shall be glad to act upon the advice of the attorney general if his advice is such as to direct action, and shall in any event advise you as to the nature of the opinion when it shall have been received.

Yours, very truly,

F. C. STEVENS,
Superintendent of Public Works.

JULY 2, 1910.

HON. FREDERICK C. STEVENS,
Superintendent of Public Works, Albany, N. Y.

DEAR SIR: I have the honor to acknowledge the receipt of your letter of June 30 stating that the authorities of the State of New York decline to take action in the matter of the abandonment of the State dam at Troy.

One of the reasons given is that navigation in the canal would be impossible were the present lock and dam removed until the new lock and dam are opened. I would invite your attention to the fact that should the old lock and dam be destroyed prior to the opening of the new canal, navigation could be continued through the branch of the Erie Canal, ending below the State dam, which branch is at present closed temporarily. It would further become the duty of the United States to see that the commerce of the river should be interrupted to the least extent practicable. In so far as I am informed, the project of the United States for carrying on the improvement contemplates the retention and operation of the existing lock and dam if possible until the new lock and dam are ready.

I regret that the canal board should not have seen its way clear to "abandon" the State work, in accordance with the verbal assurances given to me during the summer of 1909, since the board's action may defer indefinitely the work of the United States in the improvement of the upper Hudson.

It is manifestly inadvisable for the United States to start this work until it can be carried on freely and in the best manner, unhampered by any State work or State obligations, and I shall so recommend.

Very respectfully,

W. M. BLACK,
Colonel, Corps of Engineers, United States Army.

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
New York City, July 11, 1910.

The CHIEF OF ENGINEERS, UNITED STATES ARMY,
Washington, D. C.

GENERAL: Referring to my letter of July 2, 1910, I have the honor to invite your attention to a letter dated July 6, 1910, received from the superintendent of public works of the State of New York, a copy of which is inclosed herewith, this letter being a reply to my letter of July 2, 1910, a copy of which was sent to you on that date. This office has received official notification that in the river and harbor act approved June 25, 1910, there was appropriated \$1,350,000 for maintaining and continuing the improvement of the Hudson River in accordance with the conditions set forth in House Document No. 719, Sixty-first Congress, second session, with a view to completing said improvement within a period of four years.

2. The work to be entered upon first, in order to provide a 12-foot depth for navigation in the upper Hudson, within four years, is the construction of a new dam and lock at Troy and the opening from the lock of the channel to the south of it to connect with the existing

channel in the Hudson River south of the State dam. A detailed project for this work is well advanced and will be submitted at an early date. It is proposed to place the new lock and dam in the pool of the present State dam and a short distance to the north of it.

3. As stated in the report mentioned in the river and harbor act, certain manufacturing companies have leases of water rights from the State of New York, the life of which will end when the State abandons the lock and dam. Under these leases, the manufacturing companies vary the height of the pool according to their needs by means of flashboards. For the proper conduct of the work of improvement by the United States, it will be necessary for the United States to control all the operations at the State dam and lock and to remove both of said structures whenever the new work of improvement within the limited period stated shall so require.

4. It is important that the navigation of the Hudson River should be interfered with as little as practicable, and it is believed that the operations of the manufacturers using the power from the existing State dam should be allowed to continue as long as the paramount needs of the improvement will so warrant. It is proposed to make provision in the new dam for the development of power and to lease power rights when available, in accordance with law.

5. In addition to the desirability of controlling the lock and dam from the moment that the work of improvement begins in their immediate vicinity, it would be unwise for the United States to undertake the work at all until the State has made a formal abandonment of the lock and dam and thus canceled all existing power rights; to do otherwise might involve the United States later in litigation.

6. It is respectfully recommended that the State of New York be requested to formally abandon the State lock and dam at Troy. It is further recommended that on such abandonment this office be authorized to maintain and operate the State lock and dam, as a part of the maintenance of the improvement and navigation of the Hudson River, until such time as the needs of the improvement shall require the removal of all or a part of the existing works. The cost of this maintenance and operation would be small and limited to the expense of the lock tenders' salaries and such small repairs as may be necessary. This cost would be more than offset by the saving to the United States which would result from the complete control of the structures.

7. It is not believed that any part of the existing works would have to be removed during the present season, and I am informed by the State authorities that before the next season of navigation the commerce coming through the canals down the Hudson, which is the only commerce now passing through the lock, can be provided for temporarily through the branch of the Erie Canal opening into the Hudson below the State dam.

Very respectfully, your obedient servant,

W. M. BLACK,
Colonel, Corps of Engineers.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, August 4, 1910.

The SECRETARY OF WAR.

SIR: The river and harbor act of June 25, 1910, contains the following item:

"Improving Hudson River, New York: For maintenance and continuing improvement in accordance with the report submitted in House Document Numbered Seven hundred and nineteen, Sixty-first Congress, second session, and with a view to completing said improvement within a period of four years, one million three hundred and fifty thousand dollars: *Provided*, That the expenditure of the amounts herein and hereafter appropriated for said improvement shall be subject to the conditions set forth in said document: *Provided further*, That the general plan for the improvement presented in said document shall be subject to such modification as to the location of the dam and in matters of detail as may be recommended by the Chief of Engineers and approved by the Secretary of War."

2. In the prosecution of the project thus adopted, the work to be entered upon first is the construction of a new lock and dam in the vicinity of Troy, where there is an existing lock and dam owned by the State of New York, which structures are to be removed. The new lock and dam is to be placed in the pool of the existing State dam, a short distance to the north of it, and for the proper conduct of the work it will be necessary for the United States to control from the beginning all operations of the State lock and dam, and to remove them whenever the interests of the new improvement so require.

3. This necessary control can not be exercised, however, until the State of New York formally abandons its structures, for the reason that certain manufacturing companies hold leases of water rights from the State, under which they control to a certain extent the height of the pool, varying it according to their needs. If begun with these water rights in existence, the operations of the Government would be liable to interference, and besides there would be a possibility of litigation and subsequent claims for damages. These leases expire when the State abandons the lock and dam, and the importance to the United States of this action on the part of the State is, therefore, apparent.

4. The formal abandonment of the structures by the State would work no hardship on the holders of water-right leases, as they could be permitted, under Government license, to continue using water power from the existing dam as long as the paramount needs of the improvement will warrant the continuance of the dam, and in the new structure to be built by the United States provision will be made for the development of water power and the lease thereof for industrial and other purposes. Navigation will not be in any way embarrassed by such abandonment, as it is not probable that any part of the existing structures will have to be removed during the present season, and before the opening of the next season it is expected that the commerce using the structures can be temporarily accommodated, until the Government works are in operation, by the branch of the Erie Canal tapping the Hudson River below the State dam.

5. I have, therefore, the honor to recommend:

(a) That the work of improvement in the vicinity of Troy, under the project adopted by the foregoing provision of the river and harbor act, be not commenced until the State of New York has formally and legally abandoned its existing lock and dam at Troy, and has extinguished all water-power rights and privileges affected by the improvement, in order that the department may have unrestricted freedom of action in prosecuting the work.

(b) That the governor of New York be advised of this decision, with the reasons therefor, and of the desirability of the action indicated in the foregoing paragraph being taken by the proper authorities of the State at an early day.

(c) That upon the formal abandonment of the State lock and dam these structures be maintained and operated by the United States for the accommodation of public navigation until such time as the needs of the new work of improvement shall require their removal.

Very respectfully,

W. H. BIXBY,
Chief of Engineers, United States Army.

[First indorsement.]

WAR DEPARTMENT, *August 5, 1910.*

Respectfully referred to Hon. Charles E. Hughes, governor of the State of New York, Albany, N. Y., with request for an expression of his views hereon.

For the Secretary of War in his absence:

JOHN C. SCOFIELD,
Assistant and Chief Clerk.

ALBANY, N. Y., *July 6, 1910.*

Col. W. M. BLACK,
Corps of Engineers, United States Army,
New York City.

DEAR SIR: I note the contents of your letter of the 2d instant, and have to say that I think you have placed a misapprehension if not a misconstruction on my letter addressed to you in reply to your communication to the canal board, which by that body was referred to me.

The State authorities desire to cooperate in every way with the Federal authorities in connection with the construction of the lock and dam and otherwise improving the Hudson River above Troy. There is no doubt but what the attitude of the canal board will be one favorable to the formal abandonment of the present lock and dam, as soon as the work is progressed to such point as that the way will be open legally to take such step. There is no doubt, either, but that the State has full authority to cancel water leases, nor is there any doubt that steps will be taken to this end as soon as the status of the work is such as to dictate such action, and to give such action full force under the terms of the leases.

The question of maintaining navigation on the Champlain Canal during the period of constructing a new dam and lock will be simplified if, as I have to-day been assured by Messrs. Barnes and Ripley, of the advisory board, it will be, the lock work on contract 2 at Waterford shall be completed, thus permitting an entrance to the Champlain Canal by way of the Erie side cut at Watervliet.

The steps desired by you to be taken will be matters of form, and I again assure you that the State officials will cooperate with the Federal Government to the fullest extent in such matters.

Yours, very truly,

F. C. STEVENS,
Superintendent of Public Works.

ALBANY, N. Y., *August 10, 1910.*

The SECRETARY OF WAR,
Washington, D. C.

SIR: Gov. Hughes directs me to acknowledge the receipt of the letter addressed to you by W. H. Bixby, Chief of Engineers, United States Army, under date of the 4th instant, with respect to the proposed Hudson River improvement, which you have forwarded with your indorsement asking for the governor's views. Gov. Hughes has taken the matter under advisement and will communicate with you as soon as possible.

Respectfully, yours,

GEORGE CURTIS TREADWELL,
Secretary to the Governor.

ALBANY, N. Y., *October 26, 1910.*

Col. W. M. BLACK, *New York City.*

DEAR COLONEL: The State engineer advises me that the secretary of the New York Board of Trade and Transportation has written him, stating that it is his understanding that the State engineer is holding up the improvement of the Hudson River at Troy, proposed to be to be undertaken by the United States Government. Mr. Williams wishes me to say to you that the letter of the Secretary of War to Gov. Hughes has been referred to the canal board for action, and that said board has appointed a committee to confer with the Secretary of War, the personnel of this committee being the attorney general, the superintendent of public works, and the State engineer. The committee has not as yet acted, as it is awaiting the return of the Secretary of War from a trip abroad. As soon as he returns an effort will be made to secure a personal interview with him in the hopes of clearing up some legal questions, so that your work will not be interfered with.

The purpose of this letter is that in case the New York Board of Trade and Transportation should take the matter up with you, you can explain the State's reason for delay.

Trusting this will make clear to you the reasons for delay in action by the State officers, I am,

Very truly, yours,

M. G. BARNES.

[First indorsement.]

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
New York, N. Y., October 27, 1910.

Respectfully forwarded to the Chief of Engineers, United States Army, for his information.

W. M. BLACK,
Colonel, Corps of Engineers.

ALBANY, N. Y., *November 23, 1910.*

Hon. JACOB M. DICKINSON,
Secretary of War, Washington, D. C.

DEAR SIR: Pursuant to assurances given you by Hon. Edward R. O'Malley, attorney general for the State of New York, and myself during our recent visit to your department, with respect to the attitude of the canal officials regarding the water leases covering surplus water at either end of the dam in the Hudson River at Troy, I wish to advise you that the water leases have been formally canceled by the canal board and the lock and dam ordered abandoned by the State, and that formal notices of cancellation have been served upon the leaseholders.

For your information and your records, I hand you herewith certified copy of the resolution of the canal board, together with copies of notices served upon the leaseholders, and affidavit of a subordinate in this department who personally served these notices and resolution.

Yours, very truly,

F. C. STEVENS,
Superintendent of Public Works.

[Second indorsement.]

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, November 29, 1910.

Respectfully referred to Col. W. M. Black, Corps of Engineers, attention being invited to papers on the subject recently referred to him.

By command of the Chief of Engineers:

E. N. JOHNSTON,
Captain, Corps of Engineers.

[Third indorsement.]

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
New York, N. Y., December 6, 1910.

1. Respectfully returned to the Chief of Engineers, United States Army.

2. In a personal interview yesterday with Mr. F. C. Stevens, superintendent of public works of the State of New York, Mr. Stevens stated to me that it was the expectation of his office to have the branch of the Erie Canal which follows the west bank of the Hudson River and lies entirely outside of the bed of that stream between Waterford and Albany open for navigation by the shipping passing through the Champlain Canal about May 15, 1911, and to operate that branch during such time as may be required by the United States to complete the new lock and dam at Troy and to open navigation through them; that the existing State lock and dam at Troy are now definitely officially abandoned as a part of the canal system, and that they may be taken possession of by the United States at any time and may be removed by the United States as obstructions to navigation at any time the United States may so desire; that the

canal board is not empowered by law to transfer to the United States, or to any other party, any land or riparian rights, but that the canal board is prepared, if so desired, to recommend to the Legislature of the State of New York the passage of an act in this case similar to chapter 373 of the laws of the State of New York, which is an act to authorize the conveyance of land in the city of Buffalo to the United States, and became a law April 26, 1904, a copy of which is inclosed; and that he could assure me that the State officials would cordially recommend such an enactment.

3. Under the above conditions, I have the honor to recommend that the Chief of Engineers formally request the superintendent of public works of the State of New York to turn over to a representative of the United States, to be designated by this office, the custody of the existing dam and lock at Troy, together with all buildings and real property appurtenant thereto; and, further, to prepare and secure, if possible, the enactment of an act similar to the one inclosed, which would transfer to the United States the real property of the State now occupied by the existing lock and dam and appurtenant buildings at Troy, and such other real property and rights as the State may have in the lands under water and above water of the Hudson River, which are to be occupied by the lock and dam and its appurtenant structures which the United States proposes to build to replace the present State lock and dam on such a site as may be selected by the United States within that reach of the river which is included between the north and south limits of the city of Troy, a full description of said site to be furnished to the State authorities as soon as the location has been definitely fixed and the plans for the new lock and dam definitely approved, together with such real property existing at the site of the present lock and dam as it may be advisable for the United States to use or remove in connection with the opening of navigation through the new lock and dam.

4. In this connection attention is invited to the inclosed copy of section 75 of the Public Lands Law of the State of New York, chapter 50, Laws of 1909, article 6, under which the commissioners of the land office may authorize the use of lands of the State under water for the purpose of the improvement of navigation, when the same is carried on by the Federal or State Government. It is further understood that under the general laws the United States now possesses the right to erect structures necessary in aid of navigation on lands under water, whether of public or private ownership. It would seem, therefore, that even in the event of delay or failure in the passage of an act by the legislature of the State of New York, the United States has the legal authority to commence the construction of the new lock and dam without necessarily awaiting the passage of such an act.

5. In the event of the action above outlined meeting the approval of the Chief of Engineers, further authority will be requested by this office to maintain and operate the State lock and dam at Troy to such an extent as may be necessary for the needs of the United States and in the interests of navigation until the new works shall have progressed to a point which shall require the removal of the existing lock and dam.

W. M. BLACK,
Colonel, Corps of Engineers.

By the attorney general:

Whereas by the provisions of chapter 147 of the laws of 1903, and the acts amendatory thereof and supplemental thereto, the State has directed the improvement of that portion of the canal system of the State which lies in the thread of the Hudson River from Congress street, in the city of Troy, to Waterford; and

Whereas in the carrying out of that improvement so directed by the legislature, it now is apparent that the existing State dam and lock at Troy must be destroyed; and

Whereas on the 2d day of January, 1832, and on the 26th day of November, 1835, the people of the State of New York by the then canal commissioners executed two leases, the first to the Lansingburgh Dry Dock & Hydraulic Co. and the second to one George Tibbitts, whereby there was conveyed to said parties all of the surplus water created by the said Troy dam and lock; and

Whereas, in both of said leases certain rights and privileges were reserved to the State by the following clause, incorporated in both instruments: "Saving and reserving to the said parties of the first part the right wholly to resume the waters hereby conveyed and the privileges hereby granted, and to control and limit the use of said water and privileges whenever in the opinion of the canal board or of the legislature the necessary supply of water for use of any State canal, or the safety of such canal, or works connected therewith, shall render such resumption, control, or limitation necessary; and in case any such resumption shall be made, or limitation or control imposed, no compensation or damages shall be allowed for any improvements or erections made, or which may be made, under or in consequence of this grant or lease. And also saving and reserving to the said parties of the first part the right, without making any compensation to the said party of the second part, or any other person claiming under him, wholly to abandon or destroy the works, by the construction of which the said surplus water has been created, whenever, in the opinion of the canal commissioners, the occupation and use of the said works shall cease to be advantageous to the State"; and

Whereas the honorable Frederick C. Stevens, superintendent of public works, as successor to the said canal commissioners, has this day notified this board that in his opinion the occupation and use of the structures by whose maintenance the surplus water conveyed by said leases has been created, have ceased to be advantageous to the State, and by virtue of the authority and power reserved to him as successor to the canal commissioners, has recommended that the said structures be wholly abandoned and that their destruction be authorized and approved: Now be it

Resolved, That it is the opinion of this board that the whole of the surplus water created by said dam and lock is now necessary for the use of the canals of the State and the works connected therewith, authorized and directed by said chapter 147 of the laws of 1903 and the acts amendatory thereof and supplemental thereto, and that the said surplus water be, and the same hereby is, wholly resumed.

And be it further resolved, That the said dam and lock by the construction of which the said surplus water has been created, be, and the same hereby are, abandoned, and the destruction thereof be, and the same is hereby, authorized.

And be it further resolved, That the superintendent of public works be, and he hereby is, directed to serve a copy of this resolution upon the said lessees, their successors or assigns.

On calling the ayes and noes the resolution was adopted by the following vote: Ayes, Messrs. Koenig, Clark, Williams, Dunn, O'Malley, Frank M. Williams, and Stevens—6; noes, 0.

BUREAU OF CANAL AFFAIRS,
Albany, November 22, 1910.

STATE OF NEW YORK, *Comptroller's Office*, ss:

I have compared the annexed extract from the minutes of the proceedings of the canal board, November 22, 1910, with the original on file in this office, and do hereby certify the same to be a correct transcript therefrom, and of the whole thereof.

In witness whereof I have hereunto set my hand and affixed my official seal on the day and year first above written.

[SEAL.]

CLARK WILLIAMS,
Comptroller.

STATE OF NEW YORK,
Albany, ———, —.

To George Tibbitts, his successors or assigns, Le Grand C. Tibbitts, and all parties in interest, as owner or owners, holder or holders of the lease issued to George Tibbitts by the canal commissioners of the State of New York on the 26th day of November, 1835, take notice:

By direction of the canal board I hereby serve upon you a certified copy of the resolution passed by that board on Tuesday, the 22d day of November, 1910, declaring that the waters, surplus and otherwise, impounded as a result of the construction and maintenance of the dam and lock in the Hudson River at Troy, have been wholly resumed; and also, approving and authorizing the abandonment and destruction of the said dam and lock.

In testimony whereof, I have hereunto set my hand and affixed the official seal of said office this 22d day of November, 1910.

[SEAL.]

F. C. STEVENS,
Superintendent of Public Works.

STATE OF NEW YORK,
Albany, ———, —.

To the Lansingburgh Dry Dock & Hydraulic Co., to the present board of directors and officers, and all parties in interest, of the Troy Hydraulic Co., and to all other persons as owners or holders of the lease issued to the Lansingburgh Dry Dock & Hydraulic Co. by the canal commissioners of the State of New York on the 2d day of January, 1832, take notice:

By direction of the canal board, I hereby serve upon you a certified copy of the resolution passed by that board on Tuesday, the 22d day of November, 1910, declaring that the waters, surplus and otherwise, impounded as a result of the construction and maintenance of the dam

and lock in the Hudson River at Troy, have been wholly resumed; and also, approving and authorizing the abandonment and destruction of the said dam and lock.

In testimony whereof, I have hereunto set my hand and affixed the official seal of said office this 22d day of November, 1910.

[SEAL.]

F. C. STEVENS,
Superintendent of Public Works.

UNITED STATES ENGINEER OFFICE,
New York, December 6, 1910.

STATE OF NEW YORK, *County of Albany, ss:*

John E. Winne, of the city and county of Albany, and State of New York, being duly sworn, deposes and says: That he is over the age of 21 years, and is employed in the office of the superintendent of public works of the State of New York; that he did on the 22d day of November, 1910, at No. 201 Sixteenth Street, in the city of Watervliet, Albany County, N. Y., duly serve a certified copy of the annexed resolution of the Canal Board of the State of New York, passed at its meeting held on the 22d day of November, 1910, on the Troy Hydraulic Co., by personally delivering to and leaving with Frederick W. Orr, treasurer of said company, said certified copy of said resolution, together with a notice signed by the superintendent of public works and dated November 22, 1910, of which the annexed is a copy. Deponent further says that he is personally acquainted with said Frederick W. Orr, the person served by him as aforesaid, and knows him to be the treasurer of said Troy Hydraulic Co.

Deponent further says that on the 23d day of November, 1910, he duly served, at the office of the George M. Tibbitts estate in the Hall Building, in the city of Troy, N. Y., a certified copy of the annexed resolution of the canal board, duly passed as aforesaid, on the George M. Tibbitts estate, by personally delivering to and leaving with George M. Bovie, manager of said estate, said certified copy of said resolution, together with a notice signed by the superintendent of public works and dated November 22, 1910, of which the annexed is a copy. Deponent further says that he is personally acquainted with said George M. Bovie, the person served by him as aforesaid, and knows him to be the manager of said Tibbitts estate; and said George M. Bovie duly stated to deponent that he was such manager and was authorized to and did duly accept service as such manager for and on behalf of said Tibbitts estate.

JOHN E. WINNE.

Subscribed and sworn to before me this 23d day of November, 1910.

[SEAL.]

ALFRED M. O'NEILL,
Notary Public.

EXECUTIVE CHAMBER,
Albany, N. Y., April 28, 1911.

Hon. W. H. BIXBY,

Chief of Engineers, War Department, Washington, D. C.

SIR: I transmit herewith, in accordance with the terms thereof and with my approval, copy of a resolution adopted by the canal board of

this State at its meeting held on the 26th day of April, 1911, relative to the construction of a dam across the Hudson River in the vicinity of Troy.

Very respectfully, yours,

JOHN A. DIX.

[First indorsement.]

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, April 29, 1911.

Respectfully referred to Col. W. M. Black, Corps of Engineers, for early remark.

By command of the Chief of Engineers:

J. B. CAVANAUGH,
Major, Corps of Engineers.

[Second indorsement.]

UNITED STATES ENGINEER OFFICE,
New York, May 3, 1911.

Respectfully returned to the Chief of Engineers inviting attention to report of this date.

W. M. BLACK,
Colonel, Corps of Engineers, United States Army.

By the State engineer and surveyor:

Whereas at a meeting of the canal board held on November 22, 1910, a resolution was adopted: "That it is the opinion of this board that the whole of the surplus water created by the said dam and lock is now necessary for the use of the canals of the State and the work connected therewith, authorized and directed by said chapter 147 of the laws of 1903, and the acts amendatory thereof and supplemental thereto, and that the said surplus water be, and the same hereby is, wholly resumed; and be it further *Resolved*, That the said dam and lock, by the construction of which the said surplus water has been created, be, and the same hereby are, abandoned, and the destruction thereof be, and the same is hereby, authorized." And,

Whereas it is the policy of this State to conserve its natural resources and develop them for the benefit of the people; and

Whereas it may be claimed that the above resolution may interfere with such policy and permit the use of such water by some other agency than the State, and may remove from the jurisdiction of the State of New York an integral part of the canal system of the State, and, it being considered that such an abandonment is neither expedient, desirable, nor economical: Therefore be it

Resolved, That the resolution above mentioned, adopted November 22, 1910, be, and the same is hereby, rescinded; and be it

Further resolved, That, subject to the approval of the governor, a communication be forwarded to the Secretary of War of the United States and the Chief of Engineers of the United States Army, notifying them of this resolution and further requesting them to so amend the plans for the work calculated to be performed by the United States Government under an act passed by Congress known as H. R. 20886 (Public, No. 254), so as to confine said improvement of the Hudson

River to the location south of the dam to be built between Albany and Troy to take the place of the existing dam.

On calling the ayes and noes the resolution was adopted by the following vote: Ayes, Messrs. Kennedy, Carmody, Treman, and Bensel—4; noes, 0.

Upon motion the secretary was directed to forward a copy of the above to his excellency the governor for approval and transmission to the Secretary of War of the United States and the Chief of Engineers of the United States Army.

I hereby approve the above resolution.

JOHN A. DIX,
Governor of the State of New York.

APRIL 28, 1911.

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
New York City, May 3, 1911.

The CHIEF OF ENGINEERS, UNITED STATES ARMY,
Washington, D. C.

GENERAL: Complying with your indorsement of April 29, 1911, on copy of E. D. 7771/326, I have the honor to submit the following report:

2. The Hudson River is navigated in fact and is a navigable waterway of the United States. Between its mouth and Fort Edward it forms an important part of a continuous waterway which connects New York Harbor with the St. Lawrence River via the Champlain Canal, the Narrows of Lake Champlain, Lake Champlain, and the Canadian waterways, natural and artificial, between the foot of Lake Champlain and the St. Lawrence. In the unimproved river the tide ebbed and flowed as far as the rapids at Waterford, 4 miles above Troy.

3. In 1816 and 1817 the construction of the Erie Canal and of the Champlain Canal from Albany to Lake Erie and Lake Champlain, respectively, was authorized by the State of New York. The canals were declared open to navigation by an act of assembly of 1827, though boats had passed through from Lake Erie to the Hudson in 1825.

4. The State dam at Troy, with its lock, was completed in 1823, as a part of the canal systems. This dam was on the site of a wing dam constructed by the State some years earlier as a part of the river improvements inaugurated in 1797. In 1831 Mr. De Witt Clinton, jr., was employed by the United States to make a survey of the upper Hudson with a view to its improvement. His report was submitted to Congress March 30, 1832, and was printed as House Document 189, War Department, Twenty-second Congress, first session. The survey extended from Waterford to below New Baltimore. In 1834 Congress made an appropriation for improving the Hudson in accordance with this report. There is no record found that any work was carried on under this appropriation above the State dam at Troy. Since 1834 the State of New York has at various times constructed works for the improvement of the river between

the State dam and Coxsackie, in accordance with the United States projects.

5. In 1909, the bridge over the Hudson at Waterford was burned and a permit was issued under date of October 7, 1909, by the Secretary of War, authorizing the reconstruction of the bridge with certain conditions as to width of span, clear height above the water surface, and as to the erection of a draw span when required. On June 10, 1910, a permit was issued by the Secretary of War to certain contractors to deposit dredged spoil temporarily in the river bed at Lansingburg opposite Waterford.

6. From the above it will be noted that the United States has exercised jurisdiction over the river and has authorized improvements in it as far up as Waterford, 4 miles above Troy; and that the State of New York has cooperated with the United States in the improvement of the river below the State dam. The right of the United States to improve the entire river seems undoubted, though, excepting in the cases of the appropriation of 1834, and of the Waterford Bridge, and of the deposit of dredged materials above cited, all works in the river above the State dam have been left to the care of the State.

7. No record is found in this office of action by the State authorities with a view to having the United States undertake the work of construction of the new lock and dam at Troy. I am informed, however, that Congress undertook this work at the solicitation of these authorities. Certainly, in view of the statements made by the then Chief of Engineers, Gen. Mackenzie, in his letter transmitting the reports on the examination and survey of the Hudson, printed in House Document No. 539, Fifty-ninth Congress, second session, the question of undertaking by the United States the improvement of the portion of the river above the northern limit of the reach under improvement by the Federal Government up to that time must have received serious consideration by Congress. All of the action by the State authorities up to January 1, 1911, when the State administration was changed, was in harmony with the understanding that this work was undertaken by the United States with the consent and at the request of the representatives of the State charged with the construction of the canal system, as well as with the approval of the then governor.

8. Congress having acted in the matter, further action by Congress would be required in order that the wishes of the present State authorities, as embodied in the letter of Hon. John A. Dix, governor of New York, dated April 28, 1911, with its inclosure (E. D. 7771/326 and 7771/327), can be complied with. It is also a matter of some uncertainty legally whether the canal board can rescind an action of this character taken formally by the same body at an earlier date. The act of Congress requires that the conditions named in House Document No. 719, Sixty-first Congress, second session, shall be complied with before the sum appropriated shall be available for the work of improvement under the project. The condition as to the extinguishment of water-power rights and privileges was complied with in the resolution of the canal board of November 22, 1910, and the service of notice on the same date on the lessees of the surplus water at Troy of the revocation of their leases. Since that date the United States has entered into contracts for various works of the improvement and has expended funds in the preparation of the detailed plans for the work required.

9. Should it be deemed advisable to refer this matter to Congress with a view to a reversal of the action taken, it will be necessary to consider how the interests of navigation can be best served. Though an adequate lock and dam at Troy will so improve the reach between Troy and Waterford as to permit vessels of 12 to 14 feet draft and of 2 000 to 3 000 tons burden to reach Waterford and make the banks of the reach in Troy, Green Island, Cohoes, and Waterford available for manufacturing sites, and will thus promote the interests of commerce, the extent of the probable increase of water-borne transportation due only to the opening of this reach is too problematical to warrant the expense. This expense is however, warranted and necessitated by the fact that the reach in question forms the terminus of the Erie and Champlain barge canals the latter of which occupies the canalized bed of the Hudson as far as Fort Edward 33 miles above Waterford, or 37.4 miles above the State dam at Troy, while the purely canal section from Fort Edward to Whitehall is only 22.2 miles long. As stated earlier in this report, this latter canal is a section of a waterway connecting the St. Lawrence River with New York, and thus with the entire seaboard of the United States. It is believed to be only a matter of time before the United States will be compelled to assume control of all of this waterway within its borders.

10. It is important that any new lock and dam constructed at Troy shall be adequate to meet all the requirements of commerce. As soon as opened it will be the outlet for the two barge canals. It is not known with certainty what are the plans of the State of New York for this work. In so far as published, the only work contemplated is the construction of one lock of the standard barge canal lock size having a chamber of 310 by 45 feet and a depth over the miter sills of 12 feet, with repairs to the existing dam. I am informed that the existing appropriation for the barge canal will not cover the cost of even this work. The lock proposed by the United States has a chamber length of 465 feet divided by intermediate gates, a width of 45 feet, and a depth over miter sills of 14 feet. The increased length is given to provide the better for the traffic from the two canals, and the greater depth because boats drawing 14 feet will be able to reach the lock, and the increase of cost due to the greater depth over the sills is but slight. Should the United States deem it best to abandon this work to the State of New York it should be with the proviso that the plans for the proposed lock and dam shall be satisfactory to the Secretary of War.

11. In a recent interview with Gov. Dix, he stated that he deems it of importance that New York should retain control of all water-power developments from the waterways within her boundaries, and that it is his belief that should the dam at Troy be built by the United States, the State of New York could not claim or use the power developed. The project for the dam contemplates the immediate development and use of 2 000 horsepower, with a possibility by further expenditure in the tailrace of developing at least 2,000 horsepower more. It is estimated that the value at Troy of such power is between \$5 and \$10 per horsepower per annum. Assuming \$8 per horsepower per annum the immediate rental value would be \$16,000 per year, with a possible ultimate value of \$32,000 per year.

12. While this represents a resource which can not be ignored, the main object of the dam is the improvement of navigation. Should it be deemed advisable to do so, in the present condition of dispute as to the legal ownership of power developed in interior waterways, an arrangement might be entered into with the State of New York similar to that contemplated in the act of Congress entitled "An act to regulate the construction of dams across navigable waters," approved June 21, 1906, and its amendment as contained in the act approved June 23, 1910, by which the use of the power developed might be left to New York.

13. I would therefore report as follows:

(1) In my judgment the action of the canal board, dated April 28, 1911, is illegal and void.

(2) Compliance with the wishes of the governor of the State of New York, as expressed in the resolution of the canal board, can be had only by action of Congress.

(3) Congress having adopted a project of improvement from deep water of the Hudson to Waterford, subject to a condition which has been fulfilled by the State of New York, and the War Department having already taken action under that project, it should be carried out.

(4) Should the above be disapproved by superior authority, it is recommended either (a) that Congress be asked to revoke its former action and to permit the State of New York to continue the work of improvement of the Hudson between a point immediately below the present State dam and Waterford with the proviso that the works to be carried on by the State shall be satisfactory to the Secretary of War as to their design and adequacy to meet the demands of commerce or (b) that Congress be asked to authorize the Secretary of War to enter into an arrangement with the State of New York for the construction of the lock and dam and use of power developed similar to that authorized with individuals and corporations in the act approved June 21, 1906, as amended by the act approved June 23, 1910.

Very respectfully, your obedient servant,

W. M. BLACK,
Colonel, Corps of Engineers.

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
New York City, May 10, 1911.

The CHIEF OF ENGINEERS, UNITED STATES ARMY,
Washington, D. C.

GENERAL: At a conference held in Albany on May 9, 1911, with the governor, the attorney general, and the State engineer of the State of New York I was requested to submit to you for answer by the department the following questions:

Under the act approved June 25, 1910, appropriating \$1,350,000 for improving the Hudson River, is the portion of such appropriation which, by the terms of the act, is to be expended otherwise than in constructing the dam and lock mentioned in the engineer's report available, and may the same be expended without the destruction on the part of the State of New York of the present dam?

In other words, is it necessary for the State of New York to destroy the State dam at Troy before the National Government can expend any portion of the appropriation referred to?

Or, is that appropriation, or any portion of it, available (if so, what portion) without the extinction of the power rights now existing at said dam?

Should the United States Government build the dam, as contemplated by the act referred to, and thereby create water power, is it claimed that such water power belongs to the United States Government?

Very respectfully, your obedient servant,

W. M. BLACK,
Colonel, Corps of Engineers.

[First indorsement.]

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, May 17, 1911.

1. Respectfully submitted to the Secretary of War.

2. This matter is fully covered by my indorsement of the 6th instant, copy herewith, in which I recommended that the authorities of the State of New York be informed of the views of the department and asked further information as to the intentions and plans of the State.

3. In answer to the questions of the governor, set forth within by Col. Black, it is believed that it would be appropriate to say that—

(a) Under the terms of the act of June 25, 1910, the abandonment and removal of the State dam at Troy and the extinguishment of all existing water rights or privileges are specifically required. The abandonment and removal of the said structures are not made, in so many words, a condition precedent to the expenditure of the funds appropriated and pledged for the improvement of the river; but they are among the express conditions upon which Congress adopted the project and assumed the obligation to execute the improvement. Therefore if the action of the State authorities with reference to these two things should be such as to preclude their accomplishment the War Department would be bound to hold that as the requirements of Congress could not be fulfilled the department would not be warranted in undertaking any portion of the work embraced in the project nor in expending any portion of the funds appropriated thereon.

(b) Under the terms of the act the expenditure of the funds appropriated and pledged is expressly conditioned upon the extinguishment of the existing water rights or privileges.

(c) It has been uniformly held by the department that Congress has the right to regulate, control, and dispose of water power created by works constructed for the improvement of navigation, and it is believed that any water power created by the dam proposed to be built at the expense of the United States at Troy will belong to the United States and that it can be disposed of for the public benefit.

W. H. BIXBY,
Chief of Engineers, United States Army.

[Third indorsement.]

WAR DEPARTMENT,
OFFICE OF THE JUDGE ADVOCATE GENERAL,
Washington, D. C., May 22, 1911.

Respectfully returned to the Secretary of War.

The river and harbor act of June 25, 1910 (Public, No. 264), made an appropriation of \$1,350,000 for improving the Hudson River in accordance with the report submitted in House Document 719 (61st Cong., 2d sess.) and provided: "The expenditure of the amounts herein and hereafter appropriated for said improvement shall be subject to the conditions set forth in said document."

The plan submitted in said report contemplated the construction of a new lock and dam in the vicinity of Troy, N. Y., about 1,400 feet north of the State lock and dam, the removal of said State lock and dam, and the continuation of a channel from deep water in the lower river through said State lock and dam to Waterford, it being stated in said report that "it is advisable for the General Government to undertake the improvement of the Hudson River from deep water up to Waterford, provided all existing power rights or privileges affected by the improvement are extinguished by the State of New York," etc.

It appears that after the passage of the act, when it became apparent that the prosecution of the work would be facilitated by the immediate abandonment of the State lock and dam, the matter was brought to the attention of the governor of New York by War Department indorsement of August 5, 1910, on E. D. letter of August 4, 1910; that in response to this communication the State canal board, at a meeting held on November 22, 1910, passed a resolution formally abandoning the lock and dam and authorizing their destruction, this abandonment being understood to carry with it the extinguishment of the water rights; and that subsequent to the passage of the resolution the State board of public works transmitted to the Secretary of War a copy thereof and advised him that possession might be taken of the structures at any time, and that the water rights at either end of the dam had been canceled. Thereupon the Engineer Department proceeded with the necessary preliminary operations, involving the expenditure of considerable sums of money, and entered into a contract for dredging and rock excavation covering nearly \$300,000 worth of work, to be commenced during the present month.

Subsequent to this action, the governor of New York presented a resolution of the State canal board, approved April 28, 1911, rescinding the aforesaid resolution of November 22, 1910, abandoning the lock and dam, indicating an intention to retain the control of these structures, and requesting the War Department to amend the adopted project for the improvement of the river.

As a result of this attitude on the part of the State authorities, a conference was held in Albany, on May 9, 1911, with the governor, the attorney general, and the State engineer of the State of New York, at which Col. W. M. Black, local engineer officer, was requested to submit for the views of the War Department the questions which may be stated briefly as follows:

(1) Whether the portion of the appropriation made by the act of June 25, 1910, which is to be expended otherwise than in the con-

struction of the proposed lock and dam, may be expended without the destruction, on the part of the State of New York, of the present dam, or without the consent of the State to such destruction.

(2) Whether any portion of the appropriation is available for expenditure without the extension of the power rights now existing at said dam and referred to in said report.

(3) Whether, if the United States should build the proposed dam, as authorized by the act of Congress, and thereby create water power, it is claimed that such water power belongs to the United States Government.

As to the first question, the Chief of Engineers suggests the following answer:

(a) Under the terms of the act of June 25, 1910, the abandonment and removal of the State dam at Troy and the extinguishment of all existing water rights or privileges are specifically required. The abandonment and removal of the said structures are not made, in so many words, a condition precedent to the expenditure of the funds appropriated and pledged for the improvement of the river, but they are among the express conditions upon which Congress adopted the project and assumed the obligation to execute the improvement. Therefore, if the action of the State authorities, with reference to these two things, should be such as to preclude their accomplishment, the War Department would be bound to hold that as the requirements of Congress could not be fulfilled, the department would not be warranted in undertaking any portion of the work embraced in the project, nor in expending any portion of the funds appropriated thereon.

I concur in this view of the Chief of Engineers, that the project is to be treated as an entirety, and that unless the consent of the State is given to the abandonment and removal of the existing lock and dam the War Department would not be authorized to proceed with any part of the work of improvement as authorized by said act. It may further be questioned whether, the State having given its consent to the abandonment and destruction of the lock and dam, and having provided, it is understood, for the extinguishment of the water rights connected therewith, and the United States having proceeded, upon the faith of such action on the part of the State authorities, with the work of improvement, it was competent for the State authorities to rescind such action. This question should be reserved for further consideration.

As to the second question, the Chief of Engineers suggests the following answer:

(b) Under the terms of the act the expenditure of the funds appropriated and pledged is expressly conditioned upon the extinguishment of the existing water rights or privileges.

I concur in this view of the Chief of Engineers, that the whole matter is conditioned upon the extinguishment of the existing water rights or privileges connected with the State lock and dam referred to in said report, and that no portion of the funds appropriated can be expended without the extinction of the power rights now existing at said dam.

As to the third question, the Chief of Engineers suggests the following answer:

(c) It has been uniformly held by the department that Congress has the right to regulate, control, and dispose of water power created by works constructed for the improvement of navigation, and it is believed that any water power created by the dam proposed to be built at the expense of the United States at Troy will belong to the United States, and that it can be disposed of for the public benefit.

I concur in this view of the Chief of Engineers, that it was the intention of Congress in providing for said improvement that any water power created by the dam proposed to be built at the expense of the United States should be subject to the control and disposal of the United States.

E. H. CROWDER,
Judge Advocate General.

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
New York City, May 10, 1911.

The CHIEF OF ENGINEERS, UNITED STATES ARMY,
Washington, D. C.

GENERAL: In compliance with the telephonic request of the governor of the State of New York, and with orders from your office, I had a conference yesterday, May 9, at Albany, with the governor, the attorney general, and the State engineer of the State of New York.

2. In this conference, at the request of the governor, I laid before him the status of the work on the Hudson River under the appropriation of the act of June 25, 1910, as affected by the action of the canal board of November 22, 1910, and the further action of that board of April 28, 1911, in accordance with the understanding of that status as obtained after conference in your office on May 5. The governor then informed me as to the standpoint of himself and of the State authorities.

3. It would appear that the governor desires simply to retain in the State of New York the control of any water power which will be developed by the dams on the Hudson, and had been advised that the action of the canal board of November 22, 1910, might be construed as a relinquishment to the United States of the control of all water power created by a dam at Troy. It would appear, further, that the governor thinks that the dam at Troy and the pool above should be under control of the State of New York as the terminus on the Hudson of the Erie and Champlain Canals. The attorney general apparently had been under the impression that the United States entered into the project for the construction of the dam at Troy with the fundamental idea of the dam being a source of revenue from the power developed.

4. I informed the governor that the action of the United States was taken purely in the interests of navigation; that, in accordance with the conservation policy recently adopted, it was deemed important that provision should be made for the utilization of any power that might be developed; that the project for the dam contemplated only such arrangements of the dam as would permit the utilization of such power without any material increase of cost to the dam; and that in the project, as far as prepared, provision was simply made for the insertion of sluiceways for head gates in a portion of the crest of the dam and the preparation of a portion of the foundation on which a power house could be built, with a partial provision for a tailrace. I further informed him that it was my understanding that the department did not consider that the question as to who owned the power, when developed, was fully settled, but that probably it would be

deemed that if the United States was the riparian owner on both banks, should the dam be constructed, it would own the power.

5. The fact was further pointed out that the extension of the project to Waterford was entered into by Congress after due consideration by Congress of the fact that works for the improvement of navigation on the Hudson River at and above the State dam at Troy had, up to that time, been under the control of the State of New York, as was distinctly pointed out in the letter of Brig. Gen. Mackenzie, Chief of Engineers, dated January 18, 1907, transmitting the reports of preliminary examination of the Hudson to Congress, printed in House Document No. 539, Fifty-ninth Congress, second session, and again in the letter of Brig. Gen. W. L. Marshall, Chief of Engineers, dated February 24, 1910, transmitting further reports on the preliminary examinations and survey of the Hudson, printed in House Document No. 719, Sixty-first Congress, second session; and that the adoption of the project by Congress and the subsequent legislation making the appropriation had apparently been done at the request of the authorities of the State of New York; that in the legislation the availability of the appropriation was made with the proviso that all existing water-power rights or privileges affected by the improvement are extinguished by the State of New York; that the State of New York had taken the necessary preliminary steps for such extinguishment in the action of the canal board, of November 22, 1910; and the United States then had entered upon the execution of its portion of this implied contract. I further stated to them that, in my judgment, the subsequent action of the canal board of April 28, 1911, was of doubtful legality and that, if legal, it would render unavailable the existing appropriations for the improvement of the Hudson at all points, unless further action should be taken by Congress.

6. The governor seemed anxious that the work below the State dam should be continued, but that work at and above the State dam should be deferred until Congress shall have had an opportunity to pass upon a proposal of the State of New York to construct the dam and lock with its own funds in such location and upon such plans as might meet with the approval of the Secretary of War. I informed the governor that, in so far as I knew, the War Department would be quite willing to defer action on the lock and dam until such time as Congress could act further, but that it was important that the State of New York should, by its own action, make available for immediate use the funds already appropriated for the work on the remaining portion of the river.

7. The attorney general of the State held that the use of the water by the Troy Hydraulic Co. could not be denied it nor the cancellation of the leases go into effect until the State dam had actually been destroyed. To this I replied that I believed that position to be entirely sound; that it was not the intention to deprive the Troy Hydraulic Co. of the use of the water until the actual destruction of the existing State dam became necessary in the prosecution of the work of construction of the new lock and dam. In reply to a direct question from me as to what steps it would be necessary for the State of New York to take to cancel these leases were the State of New York about to proceed with the destruction of the old State dam, he informed me that it would be necessary to serve notice on the holders of the

leases that for the improvement of navigation that dam would have to be destroyed and that its use of the power would have to cease on or about a certain fixed date. This, in effect, is exactly the action that had been taken on November 22, 1910.

8. The governor then requested me to submit to you for reply by the War Department the questions sent with my letter of to-day, and decided to defer further action in the matter until a reply shall have been received from the War Department to his letter of April 28, 1911.

Very respectfully, your obedient servant,

W. M. BLACK,
Colonel, Corps of Engineers.

MAY 9, 1911.

Hon. JOHN A. DIX,
Governor of New York, Albany, N. Y.

SIR: Referring to your letter of April 28, under cover of which you transmit a copy of a resolution adopted by the canal board of the State of New York at its meeting held on the 26th day of April, 1911, relative to the construction of a dam across the Hudson River in the vicinity of Troy, I beg to call to your attention a report made to me upon the subject by the Chief of Engineers, as follows:

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, May 6, 1911.

1. Respectfully returned to the Secretary of War.
2. In the river and harbor act of June 25, 1910, Congress made provision for continuing the improvement of Hudson River in accordance with the report set forth in House Document No. 719, Sixty-first Congress, second session. The project thus adopted provides for securing a channel of specified width and depth from deep water in the lower river up to Waterford, and includes the following things:
 - (a) Dredging and rock excavation throughout the extent of the channel.
 - (b) The construction of a lock and dam in the vicinity of Troy, about 1,400 feet north of the existing State lock and dam, to take the place of the latter structures.
 - (c) The extension of the navigable channel of the river through and above the existing State dam and the connection of the same with the State canal.
 - (d) The abandonment by the State of New York of its existing lock and dam and their removal by the Government when the new structures are completed.
 - (e) The extinguishment by the State of New York of all existing water-power rights and privileges affected by the improvement.
 - (f) The ultimate utilization by the Government of the water power not required by navigation that may be created by the new constructions.
3. It is understood that when the project was under consideration by Congress, the authorities of the State of New York were decidedly favorable to its adoption, including the provisions relating to the abandonment of the State lock and dam and the extinguishment of all existing water rights or privileges, and that the action of Congress was largely influenced by the earnest and urgent advocacy of their Representatives in that body. Accordingly after the passage of the act, when it became apparent that the prosecution of the work would be facilitated by the immediate abandonment of the structures, the matter was brought to the attention of the governor of New York by War Department indorsement of August 5, 1910, on E. D. letter of August 4, 1910, copy herewith. In response to this communication the State canal board, at a meeting held November 22, 1910, passed a resolution formally abandoning the lock and dam and authorizing their destruction. This abandonment carried with it the extinguishment of the water rights, it is understood, and subsequent to the passage of the resolution the State board of public works transmitted to the Secretary of War a copy thereof and advised him that possession might be taken of the structures at any time; also that the water rights at either end of the dam had been canceled.

4. Under the terms of the act the expenditure of the funds was conditioned upon the extinguishment of these rights, and this restriction having been removed by the aforesaid action of the State, the department proceeded with the necessary preliminary operations, involving the expenditure of considerable sums of money, and entered into a contract for dredging and rock excavation covering nearly \$300,000 of work to be commenced during the present month.

5. The governor of New York now presents a resolution of the State canal board, approved April 28, 1911, rescinding the aforesaid resolution of November 22, 1910, abandoning the lock and dam, indicating an intention to retain the control of these structures and requesting the War Department to amend the adopted project for the improvement of the river. This change in the attitude of the State authorities is not understood, and is likely to embarrass the operations of the department, if not to stop them altogether until further action has been taken by Congress. While the act of Congress empowers the Chief of Engineers and the Secretary of War to modify the general plan of improvement in respect to the location of the new lock and dam, and in respect to matters of detail, it does not authorize such modifications as would be necessitated by this action of the State authorities. The abandonment and removal of the existing State structures and the extinguishment of all existing water rights are specifically required by the act, are an integral and important part of the adopted plan of improvement, and are absolutely essential to the accomplishment of the intent of Congress in providing for the improvement. To make such a change in the plan of improvement will, it is believed, require the sanction of Congress, and the department would not be warranted in prosecuting the work or making further expenditures until that sanction has been obtained. Moreover, if, as is assumed, the rescinding of the resolution of abandonment revives and continues in force the appurtenant water rights and privileges, congressional action will be necessary to justify the expenditures already made by the department in pursuance of the previous action of the State authorities. It would also seem appropriate that the action necessary to secure the assent of Congress should be inaugurated by the State through its Representatives.

6. Under existing law it will not be permissible for the State of New York to build a dam across the Hudson River unless its construction has been authorized by Congress, and the plans therefor have received the approval of the Chief of Engineers and the Secretary of War, and under present conditions the War Department must require that any dam built by the State shall conform to the plans adopted by Congress for the improvement of the river.

7. I recommend, therefore, that the views of the department be brought to the early attention of the authorities of the State of New York with request for further information as to the intentions and plans of the State.

8. If the recent action of the canal board is adhered to, I further recommend that the matter be referred to the Attorney General for opinion as to the legal effect of such action upon the availability for expenditure of the funds already appropriated by Congress for the improvement of the river, and particularly upon the contracts now in force.

W. H. BIXBY,
Chief of Engineers, United States Army.

In view of the attitude presented by Gen. Bixby, I request that you will give me further information as to the intentions and plans of the State.

Respectfully,

J. M. DICKINSON,
Secretary of War.

MAY 11, 1911.

Hon. JOHN A. DIX,

Governor of State of New York, Albany, N. Y.

GOVERNOR: In the conference held at your office on Tuesday last it became apparent to me that the policy of the United States regarding power developed by dams made for the improvement of navigation was not understood by your advisers.

I send you a copy of Circular No. 12, War Department, Office of the Chief of Engineers, April 5, 1911, and would invite your atten-

tion to the marked paragraph on page 7. Taking this in connection with the act of June 23, 1910, entitled "An act to amend an act entitled 'An act to regulate the construction of dams across navigable waters,' approved June 21, 1906," you will see that it is the desire of the United States to cooperate with State, corporate, and private interests in the development of power when the improvements necessary for navigation include the canalization of the stream by the erection of dams.

The attorney general of the State misunderstood this latter act regarding the control of the power. The United States in the act reserves for itself control only of the power necessary for the operation of the lock and dam; as, for example, at the Troy Dam the amount of power which it would thus require for its own purposes is from 250 to 300 horsepower. I inclose a copy of this act, and would earnestly request that you read personally its provisions as well as the marked paragraph of the circular sent.

Very respectfully,

W. M. BLACK,
Colonel, Corps of Engineers.

UNITED STATES ENGINEER OFFICE,
New York, N. Y., May 11, 1911.

Copy respectfully furnished the Chief of Engineers, United States Army, for his information.

W. M. BLACK,
Colonel, Corps of Engineers, United States Army.

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
New York City, May 19, 1911.

The CHIEF OF ENGINEERS, UNITED STATES ARMY,
Washington, D. C.

GENERAL: I have the honor to inclose herewith a copy of a letter and inclosure received to-day from the attorney general of the State of New York.

2. In accordance with the statements of the last paragraph of his letter, I telegraphed you this morning for authority to visit Washington during the early part of next week for the purpose of having the conference requested. At your suggestion I have communicated with the Hon. Henry L. Stimson, who is about to assume the duties of Secretary of War, and was informed that it would be impossible for him to do anything in this matter during the coming week. In view of the fact that I shall be compelled to go to Habana about May 28 and remain there for some period, it would seem to be impossible for me to be present at any conference such as Mr. Carmody suggests. I also inclose a copy of my letter to Mr. Carmody to-day in answer to his of May 17.

Very respectfully, your obedient servant,

W. M. BLACK,
Colonel, Corps of Engineers.

ALBANY, N. Y., *May 17, 1911.*

Col. W. M. BLACK,

United States Engineer Office, New York City.

DEAR COL. BLACK: Your letter of the 11th instant, with inclosures, to Gov. Dix has been forwarded me for consideration.

I regret exceedingly that I did not make myself plain to you with regard to the attitude which I took respecting the Troy dam. I inclose you copy of opinion which I rendered recently on the subject and which, I think, will remove from your mind all doubt on the subject.

My impression as to the attitude of the United States Government in seeking to construct the Troy dam has been derived from your report to the Chief of Engineers, in which, it seems to me, the claim is plainly made that the Government should have control of the entire power developed at the dam. If the Government has no such purpose, then I think there is nothing about which there can be any material difference.

Personally and officially, I am exceedingly anxious to help facilitate the work of improving the Hudson on the part of the United States Government, and I am sure this is the attitude of Gov. Dix. I have regarded it as my duty to advise the revision of the action of the canal board in December last, as I believe that action was illegal. I do not think there is any difference of opinion among lawyers on this question. Did the United States Government come in on that action and undertake later to destroy the dam, that act would, in my opinion, leave either the Government or the State liable in damages to the lessees. That power can only be legally destroyed by the State under the leases. Being satisfied of this, I advised restoring the parties to the leases to their status as before the action was taken.

In advising this action I was not at all controlled by the idea that the lessees should have a continued use of the power. Rather do I believe that, if a new dam is built at this point, it should not be done until the leases are voluntarily canceled, so that the State may have the benefit of the commercial value of the power developed. If the dam is built elsewhere, the State has this right as a matter of course.

It is exceedingly desirable that the Government be allowed to expend the appropriation in the Hudson River in improving navigation. It has the constitutional right to do this and I am sure there will be no objection thrown in the way.

Would it not be practicable for yourself and the State engineer to decide upon the location of the dam, and then allow it to be constructed by the State—the United States Government expending this appropriation, as the Constitution permits, and I think directs, it to be done, namely, in improving the navigation of the river and canal at this point?

At the request of Gov. Dix, Mr. Bensel and myself will accompany you, at your convenience, to Washington, for the purpose of adjusting any differences or misunderstanding that may exist in regard to the action taken by the State canal board and the action of the Federal Government, in regard to the navigation of the Hudson River and the construction of the State dam at Troy.

Yours, very respectfully,

THOMAS CARMODY,
Attorney General.

SURPLUS WATERS IN NAVIGABLE RIVERS.—TROY DAM.

The leases made by the State of New York for the use of the surplus waters at the east and west ends of the Troy dam can not be rescinded or terminated by the State without the consent of the lessees, so long as the dam where the power is generated remains.

The action of the canal board on November 22, 1910, in undertaking to rescind these contracts by resolution, was therefore ineffective for the purpose of terminating the leases.

The State of New York is the absolute owner of the navigable rivers within its borders and is the owner of all the waters therein and of the power developed from such waters. This ownership the canal board has no power to relinquish.

Congress has power, by subdivision 3, of section 8, of Article I of the Constitution of the United States, to enter the navigable streams of the State for the purpose of regulating commerce with foreign nations and among the several States. It may, in utilizing this power, construct dams and locks, but has no right to sell the power developed thereby, or to use any more than is necessary to operate the works thus created.

OPINION.

1. The leases made by the State of New York for the use of the surplus water taken from the east and west ends of the Troy dam are for the term of 999 years, and provide for the payment of annual rentals. The leases reserve to the State the right—

wholly to resume the waters hereby conveyed and the privileges hereby granted, and to control and limit the use of said water and privileges whenever, in the opinion of the canal board or of the legislature, the necessary supply of water for use in any State canal, or the safety of such canal or waters connected therewith, shall render such resumption, control, or limitation necessary. * * * Also saving and reserving to the said parties of the first part (the State) the right, without making any compensation to the said parties of the second part or any other person claiming under them, wholly to abandon or destroy the work by the construction of which the said surplus water has been created, when, in the opinion of the canal commissioners, the occupation and use of said work shall case to be advantageous to the State.

These provisions contemplate that the leases shall continue as long as the power continues, and that the use of the power can only be terminated by the State by the abandonment or destruction of the dam itself, when such act shall be deemed advantageous to the State, or when, in the opinion of the canal board or the legislature, it is necessary to resume the waters for the use or safety of the canals or works connected therewith.

The canal board, on November 22, 1910, undertook to rescind these contracts, under the following resolution:

Resolved, That it is the opinion of this board that the whole of the surplus water created by said dam and lock is now necessary for the use of the canals of the State and the works connected therewith, authorized and directed by said chapter 147 of the laws of 1903, and the acts amendatory thereof and supplemental thereto, and that the said surplus water be, and the same hereby is, wholly resumed; and be it further

Resolved, That the said dam and lock, by the construction of which the said surplus water has been created, be, and the same hereby are, abandoned, and the destruction thereof be, and the same is hereby, authorized; and be it further

Resolved, That the superintendent of public works be, and he hereby is, directed to serve a copy of this resolution upon the said lessees, their successors or assigns.

No notice was given to the lessees of the intention of the State to resume the surplus waters of the Troy dam. This resolution was not followed up by any act of the State looking toward the destruction of the dam.

A brief history of the events leading up to this resolution is important, that its meaning may be understood.

On January 10, 1910, a report was submitted by Col. W. M. Black, of the Corps of Engineers of the War Department of the National Government, through W. L. Marshall, Chief of Engineers, on the improvement of the Hudson River in and about Troy and Waterford, referring to the leases in question, recommending their termination by the State and the construction of a new dam. This report appears at pages 15 to 26, inclusive, in House Document No. 719. At pages 18 and 19 the report states:

It is probable that when the new dam is built there will be surplus water sufficient to develop at least about 1,400 horsepower, which should be utilized. A small portion of this can be used for operating and lighting the lock. The remainder can be sold. It will be noted that the abandonment of the existing structure by the State extinguishes these leases automatically. The legal successors of the canal commissioners are the canal board. I am informed that this body is ready to abandon the dam as soon as the United States can construct a new lock and dam. The proposed change in location of the dam would not prevent the continued use of the surplus water for obtaining power by these establishments (the present lessees), for a flume can be constructed to supply it. New and mutually advantageous arrangements can be made, if desired, with the owners of these establishments for this purpose, since the removal of the site makes it possible to locate other new establishments in a position which would make it possible to utilize the power with other parties; in other words, the change in location of the dam would not destroy any vested rights for the use of the power developed, nor would such removal prevent the present users from continuing its use. It would, however, place the Government in a position to obtain an adequate return for such power. Time has not permitted an estimate of the cost for the flume to be made. If the United States decides to undertake the construction of the lock and dam, the Secretary of War should be authorized to purchase, by condemnation or otherwise, under the general statutes of the State of New York, the real property necessary for the improvement, and also to grant leases or licenses for the use of the surplus water for water power created by the dam, at such a rate and on such conditions and for such periods of time as may seem to him just, equitable, and expedient, the said leases or licenses to be limited to the use of the surplus water not required for navigation and to a period not exceeding 20 years; for the occupation of such land belonging to the United States on the Hudson River as may be required for power flumes or other industrial purposes, not inconsistent with the requirements of navigation; and to construct such work or works appertaining to the dam as may be necessary for the development and use of such water power.

It is apparently pursuant to this recommendation that the canal board undertook to terminate the leases in question. It will be seen from this report that the immediate destruction of the power was not contemplated, but that the United States was to be substituted for the State of New York as lessors, the dam to be continued for the present, and "new and mutually advantageous arrangements made, if desired, with the owners of these easements (the lessees)."

It is further contemplated by this report that power flumes be constructed and such work or works as may be necessary for the development and use of the water power, and that the United States, when the structure is completed, shall be the owner of the water power developed and shall grant leases for the use of the surplus water, at such rate and on such conditions and for such period as to it may seem just, equitable, and expedient.

This report was submitted to the Secretary of War by the Chief of Engineers on February 24, 1910. The Chief of Engineers, in submitting the report, uses this language:

The district officer states that it is probable that there will be surplus water sufficient to develop at least about 1,400 horsepower at the new dam, a small portion of which can be used for operating and lighting the lock, and the remainder can be sold. He (Col. Black) recommends that, if the improvement be adopted, the Secretary of War be authorized to grant leases or licenses for the use of the surplus water, for water power created by the dam at such a rate and on such conditions and for such periods of time as may be just, equitable, and expedient, the said leases or licenses to be limited to the use of the surplus water not required for navigation and to a period not exceeding 20 years.

It further approves of the recommendation of Col. Black for the construction of power flumes and for the con-¹ may be necessary for the development and use of said said water power.

It will be seen, therefore, that the work of improving the Hudson River at this point was initiated with the purpose held out to the National Government of acquiring the surplus waters at Troy Dam and disposing of the same either to the present lessees or to other lessees, the revenues from which to belong to the United States Government.

The appropriation in the river and harbor bill for the improvement of the Hudson at this point seems to have been made with the view of carrying out the recommendation of acquiring the surplus waters by the National Government. The appropriation is made with this proviso:

That the expenditure of the amounts herein and hereafter appropriated for said improvement shall be subject to the conditions set forth in said document.

This refers to Document No. 719, which contains the report of Col. Black and of the Chief of Engineers.

The action of the canal board in attempting to rescind the leases was recommended by Col. Black and was a step in the consummation of the purpose of the National Government to build the dam and control the water power.

The action of the canal board, therefore, was not pursuant to the terms of the leases themselves, but for an entirely different purpose, and one which I believe the law does not sustain.

The title to the bed of navigable streams and to the waters therein is in the State, and can not be released or ceded to the National Government by the canal board, directly or indirectly.

In *People v. Tibbitts* (19 N. Y., 523) the ownership of the surplus waters of the Troy dam was under consideration by the court. The action was brought against one Tibbitts, a son of one of the original lessees, to recover rent reserved in the lease. The defendant claimed that he was the riparian owner, and therefore the owner of the surplus waters mentioned in the lease, and hence that the covenants contained in the lease on the part of the lessee were without consideration, and could not be enforced. The court says, at page 52:

It is beyond dispute that the State is the absolute owner of the navigable rivers within its borders, and that as such owner it can dispose of them to the exclusion of the riparian owners.

In this case the State exercised its power of disposition in making the lease, and consequently such lease is valid.

¹ At point indicated a line of matter appears to have been omitted from copy furnished United States Engineer Office, New York Canal.

In *Knight v. United Lands Association* (142 U. S., 161) Mr. Justice Lamar, delivering the opinion of the United States Supreme Court, said:

It is the settled rule of law in this court that absolute property in and dominion and sovereignty over the soils under the tidewaters in the original States were reserved to the several States, and that the new States since admitted have the same rights, sovereignty, and jurisdiction in that behalf as the original States possess within their respective borders.

In *Illinois Railroad Co. v. People* (146 U. S., 387) the court said:

It is the settled rule of this country that the ownership of and dominion and sovereignty over lands covered by tidewaters within the limits of the several States belong to the respective States within which they are found, and with the consequent right to use or dispose of any portion thereof when that can be done without substantial impairment of the interest of the public in the waters, and subject always to the paramount right of Congress to control their navigation, so far as may be necessary for the regulation of commerce with foreign nations and among the States. This doctrine has often been announced by this court and is not questioned by counsel of any of the parties.

This sets forth beyond question the legal principle that covers the ownership of the surplus waters. Congress may enter the Hudson River or any other navigable stream in the State, but only for the purpose of regulating and improving commerce. To this end it may erect dams and locks, but if power be generated thereby, this power does not belong to the United States Government, as it is not an incident to the exercise of the right, on behalf of the National Government, of improving or regulating commerce.

A further criticism may be made of the action of the canal board in undertaking to rescind these leases. The canals of the State must be operated by the State, and this power can not be delegated.

The constitution of 1894, Article VII, section 8, provides:

The legislature shall not sell, lease, or otherwise dispose of the Erie Canal, the Oswego Canal, the Champlain Canal, the Cayuga and Seneca Canal, or the Black River Canal, but they shall remain the property of the State and under its management forever.

I repeat that all that the State can yield to the National Government is that which the National Government itself possesses, namely, the right to enter for the purpose of improving or regulating commerce, and for no other purpose whatever.

If the plan outlined by Col. Black, pursuant to which the appropriation in this case is made, contemplates the control and management of this portion of the canal, or contemplates the development and sale of water power from surplus waters at that point, to this extent the project invades the rights of the State of New York both to control the canals and to own and dispose of the surplus waters in the canals and in the Hudson River at this point.

I conclude, therefore:

(1) That the action of the canal board in undertaking to terminate the leases above referred to was without force and effect, and that the action of the present canal board in rescinding those proceedings was legal and necessary for the purpose of maintaining and conserving the contract rights of the State and the lessees.

(2) That, while the National Government has power to enter the Hudson River at this point and to build a dam, this can only be done in the interest of navigation, and not for the purpose of conserving and disposing of the surplus waters or the power generated therefrom.

(3) That the surplus waters and the power generated therefrom belong to the State of New York and can not be yielded to the National Government by the canal board; that if Congress, by the construction of this dam, develops power, the title to it is in the State of New York.

It would seem, however, as if there need be no conflict of authority in carrying on this work. The appropriation by Congress may be expended as contemplated by the Constitution in the interest of navigation, in dredging the river, and in improving it and maintaining it for the benefit of the commerce that passes through it. The State may be allowed to retain control of the canal, and inasmuch as the State is the owner of all the surplus waters, both in the canal and in the river, it would seem as if the State should be permitted to construct this dam and have the control thereof and make leases for the use of the power generated thereby. Any other condition would bring a conflict of authority and confusion of rights and many embarrassments to navigation.

Dated Albany, May 10, 1911.

Respectfully submitted.

_____,
Attorney General.

Hon. JOHN A. DIX,
Governor, Albany, N. Y.

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
New York City, May 23, 1911.

The CHIEF OF ENGINEERS, UNITED STATES ARMY,
Washington, D. C.

GENERAL: I have the honor to report that it seems to be impracticable to arrange for the conference mentioned in my letter of May 19 between the attorney and State engineer of New York and yourself during the present week since, although the attorney general had written that the two State officials would be glad to go to Washington for such a conference at my convenience, they find it impossible to to arrange one for the date set, namely, Wednesday, May 24, and they suggest no other date.

2. Since I expect to be compelled to leave for Habana on the 28th, I shall have to be in my office the closing days of the current week for the purpose of arranging for the prosecution of the work during my absence in Habana.

3. Since the present working season is well advanced and since it would be very advantageous to the United States to enter into contracts for dredging and dike construction during the present season, as well as to make numerous repairs to the existing dikes, it is very important that the question of the availability of the existing appropriation for expenditure, in view of the action of the canal board of April 26, 1911, be settled at an early date. In my own opinion, under the best legal advice which I have been able to obtain, this action of April 26 of the present canal board is illegal and void. In support of this opinion I invite your attention to the copy of the letter forwarded you recently from the New York Board of Trade and

Transportation to the Hon. Henry L. Stimson, as well as to my earlier report.

Very respectfully, your obedient servant,

W. M. BLACK,
Colonel, Corps of Engineers.

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
New York City, May 24, 1911.

The CHIEF OF ENGINEERS, UNITED STATES ARMY,
Washington, D. C.

GENERAL: I have the honor to invite your attention to the inclosed clipping from the Troy Record of Saturday morning, May 13, 1911, commenting on the action of the authorities of the State of New York in regard to the Troy lock and dam. This article is of value as showing the feeling of many of the people of the State of New York and as showing the slight basis in law for the recent action of those authorities.

2. In connection therewith the following review of the action of the United States in regard to this project may be of value:

The act approved March 3, 1905, directs a preliminary examination of the Hudson River with a view to extending the existing project to Waterford. The report on the preliminary examination called for in this act, printed in House Document No. 539, Fifty-ninth Congress, second session, was made by Col. W. R. Livermore, Corps of Engineers, under date of March 29, 1906. In the final paragraph on page 4 of that document, Col. Livermore makes favorable recommendation in these words:

In view of the fact that most of the commerce which would be benefited by the proposed improvement is of national importance, being the through traffic by water between the Great Lakes and the Atlantic seaboard, the section of the Hudson River from the State dam to Waterford is, in my opinion, worthy of improvement by the United States Government by the extension of the existing project to Waterford.

He estimates the cost of the detailed survey at \$1,000. The Board of Engineers for Rivers and Harbors in its review of Col. Livermore's recommendation states as follows:

There is at present above the dam a channel of 10 feet depth to Waterford, but to overcome the difference of elevation at the dam the State of New York has provided a lock about 130 feet long and 28 feet wide, with a lift of about 10 feet and depth on the lower miter sill of less than 5 feet. To obtain the depth desired will require reconstructing the old dam and raising it to an elevation of about 13 feet above low water in the tidal section and building a new lock with a suitable lift and a depth of 12 feet on the miter sills.

The present commerce of this portion of the river is that derived from the Champlain Canal, which amounted to 523,244 tons in 1904, but the barge canal which is being constructed by the State of New York, at a cost of \$100,000,000, joins the Hudson at Waterford, and upon its completion this section will afford an outlet to both canals. To render the barge canal available for the purposes for which it is intended will require the reconstruction of the lock and dam at Troy, either by the State of New York or by the General Government. While the canal is a State enterprise, it is designed for interstate commerce, and with the Great Lakes and the Hudson River will form a through navigable waterway for the transportation of products from the Northwest to the Atlantic seaboard.

The board therefore concurs with the district engineer in his opinion that the section of the Hudson River from the State dam to Waterford is worthy of improvement by the United States, and recommends the survey necessary to obtain the information required for a detailed estimate of the necessary works.

These reports having been favorable, an allotment was made for a survey for the formation of a project. The report on this was made by Col. D. W. Lockwood, Corps of Engineers, under date of December 28, 1906; and in recommending in favor of the work, Col. Lockwood quotes the paragraph from Col. Livermore's report, given above. These reports were submitted by the Chief of Engineers to the Secretary of War January 18, 1907, and by the Secretary of War to Congress on January 19, 1907. In forwarding the report Gen. Mackenzie states as follows:

The work contemplated in these reports is entirely feasible from an engineering standpoint. It forms a part of the work proposed by the State of New York for its enlarged barge canal and is included by the State engineer and surveyor in his estimate for the canal. In its relation to the New York barge canal it is in a position which resembles, in a certain degree, that of the enlargement of Black Rock Harbor, at the other end of the canal. This enlargement is also included in the estimate of the State engineer and surveyor, alluded to above. In both cases the idea is expressed that if the work is not undertaken by the United States Government it will have to be done by the State of New York.

Just how far the United States Government should undertake to extend its own project to meet the project of the State of New York I am not prepared to say. The General Government has undertaken the Black Rock work at the other end of the canal, but there the improvement is such that great public benefit may accrue from it, other than that due wholly to the traffic using the canal. In the case of the improvement now proposed in the Hudson River there would, in my opinion, be no warrant for the work whatever except the use that will be made of it as a link in the barge canal, and I consider therefore that it stands on a somewhat different footing from the Black Rock project.

The decision whether or not the United States Government shall undertake this improvement, which would otherwise be done by the State of New York, must rest with Congress, and I therefore forward these reports without expressing any opinion as to the propriety of doing the work at the expense of the General Government.

It is possible that the plans of the State for its barge canal might be furthered by some modification in the lift of the dam proposed in this report, and I therefore suggest that this feature be regarded as still open for consideration if Congress determine to authorize the work.

In his survey report Col. Lockwood makes no reference to the work of maintenance. It is manifest that a single lock in a system can be most efficiently and economically operated and maintained by the party in control of the system as a whole. I therefore recommend that should the work herein contemplated be authorized by Congress the appropriation be made subject to the condition that the State authorities will undertake to operate and maintain the work when completed.

No action seems to have been taken on this report in the river and harbor act approved March 2, 1907. In the river and harbor act approved March 3, 1909, Congress directed a preliminary examination and survey with project for—

Hudson River, with a view to providing a channel not less than 200 feet wide and 12 feet deep at all stages from deep water in the lower river to Waterford, including a lock and dam at Troy suitable in size for all probable purposes of navigation and commerce to and from the barge canal.

The same act, approved March 3, 1909, in the second paragraph of section 13, referring to the preliminary examination, directs:

That every report submitted to Congress in pursuance of this section, in addition to full information regarding the present and prospective commercial importance of the project covered by the report, and the benefit to commerce likely to result from any proposed plan of improvement, shall contain also such data as it may be practicable to secure regarding (first) the establishment of terminal and transfer facilities; (second) the development and utilization of water power for industrial and commercial purposes; and (third) such other subjects as may be properly connected with such project: *Provided further*, That in the investigation and study of these questions consideration shall be given only to their bearing upon the improvement of navigation and to the possibility and desirability of their being coordinated in a logical and proper

manner with improvements for navigation to lessen the cost of such improvements, and to compensate the Government for expenditures made in the interests of navigation.

In compliance with the provisions of this act, my reports dated May 5, 1909, and January 10, 1910, were submitted. After review by the Board of Engineers for Rivers and Harbors, these were transmitted by the Chief of Engineers to the Secretary of War February 24, 1910, and by the latter to Congress February 28, 1910. The project was adopted by Congress in the act approved June 25, 1910.

In 1906 Congress passed a general law "to regulate the construction of dams across navigable waters." This was amended by the act approved June 23, 1910, and makes provision by means of which cooperation can be secured between the United States and any person or persons to whom authority has been or may hereafter be granted by Congress to construct and maintain a dam for water power or other purpose across or in any of the navigable waters of the United States, by means of which power may be developed and used by such person or persons and the interests of navigation duly protected.

It is evident from the above that the adoption of the project, including the construction of the lock and dam at Troy, was based on the needs of navigation purely, and that any revenue from water power developed was to be used "to lessen the cost of such improvements (for navigation) and to compensate the Government for expenditures made in the interest of navigation." The discrepancy between the annual interest, at any reasonable rate, on the expenditure contemplated by the Government for the lock and dam at Troy and the work connected therewith, which would aggregate considerably over \$1,000,000, and the annual revenue to be obtained from the power developed is too great to give ground for any reasonable belief that the receipt of such revenue was a controlling reason for the Government to enter upon this project.

Very respectfully, your obedient servant,

W. M. BLACK,
Colonel, Corps of Engineers.

[The Troy Record, Saturday, May 13, 1911.]

THE HUDSON RIVER IMPROVEMENT CONTROVERSY.

It is difficult to view too seriously the situation created by the Dix administration through its repudiation of the agreement between the State and the United States under which the latter agreed to construct a new dam in the Hudson River opposite the city of Troy and at the same time to expend several millions on channel improvement in the upper Hudson. If the latest State decision stands, commencement of work on the dam will be delayed and the structure will not be ready for use when the barge canal is opened for traffic. Besides, the State will be forced into a heavy expenditure not contemplated when the original barge canal cost was estimated and will lose the amount which the National Government has planned to invest in the dam designed by the engineers of the War Department. There is also danger that the whole river improvement appropriation will fail, since the act authorizing the outlay made the provision of \$5,186,064 contingent upon cancellation of the present water-power leases at the dam, and this now is refused by the State government. Further action by Congress is necessary if the appropriation is to be available for the work planned, and such action probably could not be secured until long after the opening of the regular session next December.

A delay of one or two years therefore seems certain if the State authorities are permitted to carry out their present scheme, and in the end the Hudson improvement will fall far short of what has been arranged for in the Government plans. The State

proposes to have at the State dam a lock of the standard barge-canal size, with only 12 feet of water over the miter sills, while the national plan calls for 14 feet over the sills and three gates, dividing the 460 feet of total lock length into two locks, one of 310 feet and one of 150 feet. This would expedite the passage of small boats and economize in the use of water and at the same time would make possible the use of boats beyond the barge-canal size without rebuilding the lock, a feature of decided importance in view of the probability of opening a route from the Hudson to Lake Champlain for vessels of large capacity.

In explanation of its action the State administration has issued a statement prepared by the attorney general which seeks to show that the existing power leases at the State dam "can not be rescinded or terminated by the State without the consent of the lessees so long as the dam where the power is generated remains" or until "in the opinion of the canal board or the legislature it is necessary to resume the waters for the use and safety of the canals or works connected therewith."

In order to strengthen the administration position the statement points out that "the State is the absolute owner of the navigable rivers within its borders and is the owner of all the waters therein and of the power developed from such waters," the National Government having simply the right "to enter the navigable streams of the State for the purpose of regulating commerce with foreign nations and among the several States. It may in utilizing this power construct dams and locks, but has no right to sell the power developed thereby or to use any more than is necessary to operate the works thus created." In this connection reference is made to the report submitted in January, 1910, by Col. Black, of the Corps of Engineers of the War Department, as evidence that "the work of improving the Hudson River at this point was initiated with the one purpose held out to the National Government of acquiring the surplus waters at the Troy dam and disposing of the same either to the present lessees or to other lessees, the revenues from which to belong to the United States Government."

The statement concludes with the declaration that the cancellation of the leases in 1910 was without force or effect; that the action of the present board in rescinding those proceedings was legal and necessary; "that while the National Government has power to enter the Hudson River at this point and to build a dam, this can only be done in the interest of navigation and not for the purpose of conserving and disposing of the surplus waters or the power generated therefrom; that the surplus waters and the power generated therefrom belong to the State of New York and can not be yielded to the National Government by the canal board; that if Congress, by the construction of this dam, develops power, the title to it is in the State of New York."

This is the position taken by the Dix administration. No one will question certain of the facts and laws presented, but many will doubt the soundness of the conclusions and the wisdom of the acts based upon them. An earlier statement prepared in the executive chamber at Albany asserted that there exists "in the State of New York no authority, either past or present, which would make it possible to alienate from the people any portion of the canal, as laid down and described in the constitution, whereby it states that the canal system shall commence at the foot of Congress Street, Troy." This argument, as well as the one that the State must reserve to its people all returns from its water powers, is subject to the restrictions involved in the undisputed Federal control, for navigation purposes, of the navigable waters of the State. The fact that no State protest was made when the National Government deepened the channel in the Hudson between Congress Street and the State dam is proof that the State authorities never have insisted upon a literal interpretation of State control of the navigable streams and their beds. A decision by the Supreme Court of the United States carries the navigable waters of the Hudson to the rapids near Waterford, and this gives national control of the waters at the State dam so far as navigation may be affected. That control was modified in order to permit the State to construct the present dam, but the United States did not thus lose its authority, and to-day has the right to build a new dam, with no water-power development attached or permitted, and in that way to end a long controversy originating in the desire of certain individuals and corporations to perpetuate a valuable privilege long enjoyed at the expense of the people of the State.

Another point not taken into consideration by the State officials in their solicitude for the saving of all water power for the people is the fact that the United States is not engaged in power development and is not viewing the Hudson River project as a source of revenue from water powers. Its chief interest is to see that power enterprises do not interfere with the amount of water necessary for navigation, and its plan for leases simply provides protection against abuse of the water-power privilege to the detriment of the navigable channel. It was reluctant to undertake the upper Hudson development, but at last agreed to do so because of the repeated requests

from the people of the State and because it saw great advantage to the whole country from the creation of larger navigation facilities in this portion of the Hudson River. Return on the incidental horsepower is not precedent to construction of the dam. Indeed, the most the Nation will do toward such power development is the arrangement of the dam for ultimate power uses and the erection of gates to control the flow of the surplus water to future hydraulic development. The Secretary of War is authorized to grant leases or licenses for the water power created at the dam, for such uses and such periods as may be deemed just, equitable, and expedient, the time limit not to exceed 20 years and the water use to be confined to the surplus after navigation needs have been met. It is possible for the State to secure such lease or license and to have full control of the available water power, with the profits therefrom going to the people. The National Government presumably would be content with a return covering the interest on the investment for power gates only and a sufficient amount in addition to extinguish the debt at the end of an agreed-upon period. The State then could sell this water power to the highest bidder—just as it will have to do if it puts a million of State money into the dam—leaving the successful individual or corporation to construct a power house and flumes and raceways. This would retain for the people their full rights and give them the desired power return, and that without the expenditure of a dollar for the dam or other construction, while the whole country would share in the advantages flowing from a dam and lock of sufficient capacity for present needs and future ship-canal use. The alternative offered by the present State officials is a big State outlay, with locks limited to barges of the canal type and sales of power which under the most economical management scarcely would meet the requirements for interest and maintenance.

The excuse offered for perpetuating the power leases at the State dam will not be accepted by the people as adequate. The old canal board, in 1910, declared the leases canceled because the whole of the water at the dam is required for the use of the canals of the State and because of the determination that "the said dam and lock, by the construction of which the said surplus water has been created, be, and the same hereby are, abandoned and the destruction thereof be, and the same is, hereby authorized." The fact that the power was not shut from the raceways of the power lessees immediately after this action by the 1910 canal board is sufficient proof that the purpose was to give notice of the termination at the time of the destruction of the old dam in preparation for utilization of the new one to be constructed under National Government auspices and at national expense. Therefore, even under the strained interpretation of the leases offered by Attorney General Carmody, the cancellation of the power contracts was entirely legal and proper, as was declared by Mr. O'Malley, attorney general in 1910, who offered the resolution in the old canal board. An opinion of one attorney general setting aside the opinion of another attorney general would seem to be a weak foundation for jeopardizing an appropriation of more than five millions by the General Government for Hudson River improvement and adding to the burdens of the people of the State the more than one million required to construct a dam distinctly inferior to the one planned by the United States.

Here is the situation: Years ago the State, with the consent of the National Government, constructed a dam in the Hudson River as an aid to the operation of the State canals. The water power incidentally developed was leased to certain individuals and corporations for \$550 on an estimated water surplus of 2,200 horsepower taken at the power gates of the dam, or less than 30 cents per horsepower. Whatever may have been the original value of this power, it now is, and for many years has been, worth from \$5 to \$10 per horsepower at the gates, or \$20 if delivered at the water wheels of the users. When the barge-canal project was developed the State authorities decided that the best interests of the people of the State and of the Nation demanded national cooperation in the development of the new navigation system, and the United States, with some reluctance, undertook to attend to the Hudson River part on condition that the State canceled the power leases and cleared the way for unimpeded work. Approval of this condition by the War Department and by Congress testifies to the soundness of the opinion of Attorney General O'Malley rather than that of Attorney General Carmody, since the National Government is wise enough not to have provided for an expenditure in excess of five millions under conditions which it did not believe possible of realization. Having provided by the condition against possible legal complications, the Federal Government began its preparations for improving the Hudson, and has expended from \$35,000 to \$40,000 on the preliminary work, and has progressed to the point where a contract for \$300,000 is in force, with other amounts appropriated and an ultimate outlay of \$5,186,064 provided for.

When the Dix administration came into authority it raised no question as to the validity of the cancellation of the power leases and the agreement between the State and the Nation. Not until four months after it took hold of the State government did it move in the matter, and then the first act was to rescind the cancellation of the power leases. This gives rise to more than a suspicion that the impulse for the Dix régime to make this move came from the holders of the leases for power at the dam, who for months have made no secret of their determination to retain the valuable privilege enjoyed at the expense of the people, even if that retention involved loss of the national appropriation of \$5,186,064 and a State expense of more than \$1,000,000 for an inferior dam and a navigation development limited to boats of the barge-canal type.

The attorney general seized upon this contention of the lessees as an excuse for rescinding the action of the old canal board, but in announcing it sought to justify the loss of the Federal appropriation and the outlay of \$1,000,000 by the State by estimating a State revenue from power at the new dam at \$100,000. As the highest estimate of the horsepower to be developed under the new conditions is 2,000 at the gates of the dam and 2,000 more by resort to long flumes and raceways, it is seen that the attorney general proposes to lease the surplus waters at about \$25 per horsepower, against less than 30 cents paid by the present lessees. If that is the State purpose, the rejection of the Government plans will profit the present power users nothing, since they will not be able to secure the future water power without paying its full commercial value.

Under the national plan the people of the State would enjoy the water-power development at the dam after paying only the interest and principal on the cost of the gates controlling the surplus waters, estimated at \$100,000. Under the Dix administration plan the people will obtain the benefits of the water power only after paying not less than \$1,000,000 for the dam and providing for the by no small means cost of maintenance of the structure. Is it difficult to decide which plan the better carries out the letter and the spirit of the determination of the State to conserve the water powers of the Commonwealth for the enjoyment and advantage of its people?

WAR DEPARTMENT,
Washington, May 25, 1911.

THE ATTORNEY GENERAL.

SIR: The river and harbor act of June 25, 1910 (Public, No. 264), made an appropriation of \$1,350,000 for improving the Hudson River in accordance with the report submitted in House Document No. 719 (61st Cong., 2d sess.), and provided, inter alia, "the expenditure of the amounts herein and hereafter appropriated for said improvement shall be subject to the conditions set forth in said document."

The plan submitted in said report contemplated the construction of a new lock and dam in the vicinity of Troy, N. Y., about 1,400 feet north of the State dam, the removal of said State dam, and the continuation of the channel from deep water in the lower river through said State dam to Waterford, it being stated in said report that "it is advisable for the General Government to undertake the improvement of the Hudson River from deep water up to Waterford, provided all existing power rights or privileges affected by the improvement are extinguished by the State of New York," etc.

After the passage of the act, when it became apparent that the prosecution of the work would be facilitated by the immediate abandonment of the State lock and dam, the matter was brought to the attention of the governor of New York by War Department indorsement of August 5, 1910, on Engineer Department letter of August 4, 1910. In response to this communication the State canal board, at a meeting held on November 22, 1910, passed a resolution formally abandoning the State lock and dam and authorizing their destruction, this abandonment being understood to include the

extinguishment of the existing power rights and privileges connected with said dam. Subsequent to the passage of this resolution the State board of public works transmitted to the Secretary of War a copy of the same and advised him that possession might be taken of the structures at any time, and that the water rights at either end of the dam had been canceled. Thereupon the Engineer Department proceeded with the necessary preliminary operations, involving the expenditure of considerable sums of money, and entered into a contract for dredging and rock excavation covering nearly \$300,000 worth of work, to be commenced during the present month.

After these expenditures and the execution of said contract, the governor of New York presented a resolution of the State canal board, approved April 28, 1911, rescinding the aforesaid resolution of November 22, 1910, abandoning the lock and dam, indicating an intention to retain the control of these structures and requesting the War Department to amend the adopted project for the improvement of the river.

As a result of this attitude on the part of the State authorities, a conference was held in Albany on May 9, 1911, with the governor, the attorney general, and the State engineer of the State of New York, at which Col. W. M. Black, the local engineer officer, who represented the United States at the conference, was requested to submit, for the views of the War Department, certain questions, which are substantially the first three questions hereinafter submitted for your opinion. If the expenditure of the entire appropriation is conditioned upon the consent of the State to the destruction of the State dam and the extinguishment of the power rights now existing at said dam, it will appear that the withdrawal of the consent heretofore given, if operative, places the War Department in an embarrassing position, since considerable expenditures have been made and a contract let on the faith of such consent.

I have the honor, therefore, to request your opinion on the following questions:

(1) Whether the portion of the appropriation made by the act of June 25, 1910, which is to be expended otherwise than in the construction of the proposed lock and dam, may be expended without the consent of the State of New York to the removal of the present dam.

(2) Whether any portion of the appropriation is available for expenditure without the extinction of the power rights now existing at said dam and referred to in the report mentioned in the appropriation.

(3) Whether, if the United States should build the proposed dam, as authorized by the act of Congress, and thereby create water power, the water power so created belongs to the United States.

(4) Whether, in view of the fact that the State gave its consent to the abandonment and destruction of the State dam at Troy by resolution of the State canal board of November 22, 1910, and provided, it is understood, for the extinction of the water rights connected therewith, together with the fact that the United States has proceeded on the faith of such action on the part of the State authorities with the work of the improvement, it would be competent for the State authorities to rescind such action, or whether the resolution of April 28, 1911, should not be regarded as inoperative to accomplish its purpose.

I inclose for your information a letter from Col. Black, dated May 10, 1911, and invite your attention to the indorsements thereon by the Chief of Engineers and the Judge Advocate General, and also to inclosed copy of a report by the Chief of Engineers dated May 6, 1911. It is requested that the accompanying papers be returned with your opinion.

Very respectfully,

ROBERT SHAW OLIVER,
Acting Secretary of War.

VIEWS CONFLICT ON HUDSON DAM.

CARMODY DECLARES THAT CONTROL RESTS WITH THE STATE—HIS CRITICISM OF ENGINEER—BOARD BELIEVES THAT FEDERAL GOVERNMENT SHOULD CONTROL.

ALBANY, *May 21.*

Under instructions of the State canal board, Attorney General Carmody has sent a letter to Edward A. Bond, chairman of the advisory board of barge canal consulting engineers, criticizing him for taking a position hostile to that taken by the present Democratic canal board in regard to the proposed construction of a dam and improvements on the Hudson River at Troy. The canal board has ruled that the disposal of the surplus waters and power resulting from the improvements should be vested in the State, while Mr. Bond contends that the improvements should be made as authorized by the former Republican canal board, with the Federal Government practically controlling the power created by the surplus waters from the dam.

"Does the State desire to surrender to the National Government the control of a portion of the canal for the purpose of allowing the National Government to accumulate and sell water power at that point?" asks Mr. Carmody. "Are you, or are you not, in favor of this proposition? The canal board is not in favor of it. It regards it as a betrayal of the right of the people, both from a legal and an economic standpoint. Conservative estimates show that water power may be accumulated of a sufficient value within a very few years to pay for the structure. This should belong to the State."

Mr. Carmody reiterates that the National Government may improve the Hudson River in the interest of navigation, but the State should retain the ownership and control of its water power and of its canal. The attorney general also says the canal board has taken action upon the insistent recommendation of Gov. Dix for the purpose of maintaining the State's rights.

The letter is part of the correspondence defining the attitude of the new Democratic administration in opposing the plans of the Federal Government and the former Republican canal board regarding the construction of a dam in the Hudson River at Troy. The correspondence was made public by Gov. Dix to-day.

The correspondence includes letters by Chairman Edward A. Bond and Edward Brooks Frye, of the State advisory board, favoring the plans of the Federal authorities and the reply by Attorney General Carmody opposing them.

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
New York City, May 27, 1911.

The CHIEF OF ENGINEERS, UNITED STATES ARMY,
War Department, Washington, D. C.

GENERAL: The attitude of the authorities of the State of New York is so peculiar, and the legal opinions and quotations of law made by them are so at variance with the actual law, as I understand it and as I am instructed by legal friends, that I am sending from time to time quite a great deal of written and printed matter to your office for use in any conference which may be had with the State officials, a conference at which it now appears I may not be present.

2. The whole attitude of the State authorities in taking action on partial information and ex parte statements, without making any endeavor beforehand to find out from the United States officials the true status of the matter, would seem to imply some motive for their action which does not appear on the surface, and, in fact, the course of action taken might be deemed discourteous to the United States authorities.

3. The State authorities profess that the action by them has nothing to do whatever with the interests of the persons enjoying the use of the power at the Troy Dam, and the designs of the State authorities, as expressed to me verbally at the conference at Albany, would be just as disastrous to the present users of the power as are the projects of the United States, yet the agents of these said users are, and have been, actively employed in endeavoring to bring about this very action by the State authorities and to confirm and perpetuate it. Specific evidence of this could be given if desired.

4. The whole matter has been handled by the State authorities in a manner so much at variance with any experience I have heretofore had in dealing with State and city officials that I am entirely at a loss to know how either to view or meet these methods. It looks as though the State authorities had, for reasons of their own, determined on a course of action and were intent on carrying it out without any regard whatever to any embarrassments they might cause to the United States authorities or to the work.

5. Your attention is invited to the small excerpt from one of the Albany papers inclosed herewith.

Very respectfully, your obedient servant,

W. M. BLACK,
Colonel, Corps of Engineers.

[First indorsement.]

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, June 1, 1911.

1. Respectfully returned to Col. Black.

2. Under the act of Congress the appropriation for the Troy dam and upper Hudson River work was made subject to certain conditions, which the State of New York could comply with or not at its pleasure. It is not the duty of the Federal Government to make decisions for the State or to influence its choice; but so long as the State fails, or so soon as the State ceases, to comply with the conditions of the Federal act the Federal officers concerned should refrain from or cease further work under the appropriation until ordered to recommence by the War Department or by Congress, except that in case of doubt on the part of the district officer, where a report of facts has been made, work in actual progress need not be discontinued until the report has been specially acted upon by the higher officers or officials.

3. Attention is invited to the accompanying copy, which may be retained, of department letter dated May 25, 1911, to the Attorney General.

W. H. BIXBY,
Chief of Engineers, United States Army.

[Second indorsement.]

UNITED STATES ENGINEER OFFICE,
New York, N. Y., June 7, 1911.

1. Respectfully returned to the Chief of Engineers, United States Army.

2. In addition to the preparation of the plans for the general improvement of the Hudson, the works now being carried on and paid for under that appropriation are as follows:

(a) Rock excavation and dredging under contract with Michael J. Dady.

(b) Contract for stone for dike work.

(c) Purchase of survey and storage scows.

(d) Repairs to dikes required for the maintenance of the improvement already made.

In addition to this there will be required for maintenance dredging operations in August and September and in the early spring of 1912, in order not to stop the navigation on the river:

(e) Three preliminary examinations of various parts of the upper Hudson called for in the river and harbor acts of 1910 and 1911, which reports have not yet been submitted.

3. The funds that will be required to continue the above work until July 1, 1912, by which time further action by Congress may be expected are estimated as follows:

For work under the Dady contract.....	\$110,000
Contract for stone for dike work.....	2,530
Purchase of survey and storage scows	950
Repairs to dikes required for maintenance of improvement.....	6,000
Emergency dredging.....	20,000
Preliminary examinations.....	200
Rent of storage yard and house and care of plant.....	725
Engineering and supervision	6,000
Total.....	146,405

Of this total, as stated, \$112,530 are required for payment and supervision of existing contracts under the new project, \$33,675 for works of maintenance, and \$200 for preliminary examinations of the upper Hudson River.

4. The total consideration of the contract with Mr. Dady for rock removal is \$282,000, and the figures given above represent the cost of the amount of work which it is expected will be done prior to July 1, 1912, under this contract plus 10 per cent for engineering and office expenses. Funds should be provided for the various works enumerated above and in the amount as stated, in order to prevent action for damages against the Government for violation of the contract with Mr. Dady and losses by the destruction of various of the injured dikes and by the failure to maintain navigation under the old 12-foot project during the season of 1911 and the spring of 1912.

5. Preparations are now being made for early advertisement for proposals for dike construction under the latest approved subproject with a view to obtaining a depth of 12 feet at all stages and for necessary enlargement of existing dikes by hired labor under the same project. Work is also being done in perfecting the plans for the lock and dam at Troy and preparing the specifications for contract.

6. Instructions are respectfully requested as to what work shall be continued under the recent decision of the Attorney General. In case it should be decided that nothing can be done with the funds of the appropriation other than the prosecution of the work under the existing contract, it is respectfully recommended that an allotment of \$200 be made for preliminary examinations of the Hudson and of \$34,000 for maintenance. The wording of the act would seem to authorize the works necessary for the maintenance of the channel of the old project with the appropriations as they now stand but to make unavailable any funds for the prosecution of work under the new project, unless the conditions named are complied with by the State of New York.

W. M. BLACK,
Colonel, Corps of Engineers.

ALBANY, N. Y., May 26, 1911.

HON. ROBERT SHAW OLIVER,
Acting Secretary of War, Washington, D. C.

SIR: Gov. Dix directs me to acknowledge receipt of your communication of the 24th instant, and to say that the request therein has been transmitted to the Hon. John A. Benschel, State engineer and surveyor.

Very truly, yours,

JOHN A. MASON,
Secretary to the Governor.

DEPARTMENT OF JUSTICE,
Washington, May 29, 1911.

The SECRETARY OF WAR.

SIR: I beg to acknowledge the receipt of your letter of the 25th instant in regard to the appropriation for the improvement of the Hudson River in the river and harbor act of June 25, 1910, and requesting my opinion upon certain questions growing out of the action of the governor of the State of New York in attempting to rescind the resolution of the State canal board abandoning the State lock and dam at Troy, N. Y.

An opinion will be prepared and sent you as soon as practicable.
For the Attorney General:

W. R. HARR,
Assistant Attorney General.

WAR DEPARTMENT,
Washington, June 27, 1911.

Memorandum for Maj. Cavanaugh:

Mr. W. W. Loomis, president of the Chamber of Commerce, Troy, N. Y., with two other gentlemen, were heard as to the construction of the dam and lock in the Hudson River at Troy. They favor the upper location as per plans of Col. Black. They wish the lock and the channel on the Troy side of the river, in order to keep the benefit of the wharves already constructed below the present dam, and also to keep the future commerce and development of the river on their side. They also say that the upper dam would develop nearly double

the water power of the lower, and they wish that utilized for the benefit of Troy.

They say that the opposition to them comes from the water-power interests now involved in the present dam, who are getting water-power rights worth \$20,000 a year for a rental of \$500 or \$600. They also suggest political considerations as involved in the construction of the new dam by the present State engineer of New York.

H. L. STIMSON,
Secretary of War.

WAR DEPARTMENT,
Washington, June 30, 1911.

Hon. JOHN A. DIX,
The Capitol, Albany, N. Y.

MY DEAR GOV. DIX: In answer to your telegram which I received last evening, I this morning telegraphed you as follows:

I shall be unable to give matter of Troy Dam my personal attention until after my return from Panama in August. If desired, Acting Secretary Oliver will give hearing to gentlemen mentioned in your telegram during my absence.

Since sending this telegram I have ascertained, however, that a request was made by the War Department a short time ago for an opinion of the Attorney General upon certain legal questions which will arise in connection with this matter of the Troy Dam. It appears that in November, 1910, the New York State administration passed a resolution abandoning the dam and so notified the War Department. On the strength of that notification expenditures have been made in the Hudson River improvement. Last April the new administration passed a resolution revoking the old resolution and so notified the department. One of the questions now before the Attorney General is whether or not such revocation could legally be made.

I suggest now, therefore, that it will be advisable for the attorney general of the State and the State engineer to defer coming before Acting Secretary Oliver, if they plan to come, until after we have heard from the Attorney General of the United States on these fundamental questions. Gen. Oliver will be in a far better position to define the scope of a hearing after that opinion is received than now. As soon as the opinion is received he will communicate with you again as to this matter.

Very respectfully, yours,

HENRY L. STIMSON.

[Telegram.]

ALBANY, N. Y., *June 29, 1911.*

The SECRETARY OF WAR,
Washington, D. C.

The attorney general and the State engineer of the State of New York are ready at your convenience to appear in Washington before you in regard to the matter of the Troy dam previously referred to in the correspondence between the Secretary of War and the governor of the State of New York.

JOHN A. DIX, *Governor.*

[Telegram.]

JUNE 30, 1911.

Hon. JOHN A. DIX,
The Capitol, Albany, N. Y.

I shall be unable to give matter of Troy dam my personal attention until after my return from Panama in August. If desired, Acting Secretary Oliver will give hearing to gentlemen mentioned in your telegram during my absence.

HENRY L. STIMSON,
Secretary of War.

ALBANY, *July 7, 1911.*

Hon. HENRY L. STIMSON,
Secretary of War, Washington, D. C.

MY DEAR SECRETARY STIMSON: I have received your letter of June 30 with regard to a proposed conference between the attorney general, the State engineer, and Acting Secretary Oliver concerning the Troy dam.

As you suggest a desire for a postponement, the attorney general and the State engineer will await a further communication from your department before taking up again the discussion of the questions involved.

Very truly, yours,

JOHN A. DIX.

[Second indorsement.]

WAR DEPARTMENT,
 OFFICE OF THE CHIEF OF ENGINEERS,
Washington, July 20, 1911.

1. Respectfully returned to the Secretary of War, attention being invited to War Department letter of June 30, 1911, to Gov. Dix.

2. Report with appropriate recommendations, based upon the opinion of the Attorney General, is submitted in indorsement of this date on 7771/328, E. D.

EWD. BURR,
Acting Chief of Engineers.

OPINION OF UNITED STATES ATTORNEY GENERAL RE CONSTRUCTION OF NEW LOCK AND DAM AT TROY, N. Y.

[The words italicized appear so in the original.]

CONSTRUCTION OF NEW LOCK AND DAM AT TROY, N. Y.

The appropriation in the river and harbor act of June 25, 1910 (36 Stat., 635), for improving the Hudson River, which contemplated the construction of a new lock and dam in the vicinity of Troy and removal of the State dam, was conditioned upon the extinguishment by the State of all existing power rights or privileges affected by improvement, and after the existing power rights and privileges in question had been extinguished by the State canal board it was beyond the power of the State to interfere with the improvement authorized, in view of the paramount control of Congress over the Hudson River as a navigable waterway of the United States.

DEPARTMENT OF JUSTICE, *July 3, 1911.*

SIR: The river and harbor act approved June 25, 1910 (36 Stat., 635-636), contains the following provision:

Improving Hudson River, New York: For maintenance and continuing improvement in accordance with the report submitted in House Document Numbered Seven hundred and nineteen, Sixty-first Congress, second session, and with a view to completing said improvement within a period of four years, one million three hundred and fifty thousand dollars: *Provided*, That the expenditure of the amounts herein and hereafter appropriated for said improvement shall be subject to the conditions set forth in said document: *Provided further*, That the general plan for the improvement presented in said document shall be subject to such modification as to the location of the dam and in matters of detail as may be recommended by the Chief of Engineers and approved by the Secretary of War.

In your letter of May 25, 1911, referring to the report of the engineer officers of the War Department embodied in House Document No. 719, you say:

The plan submitted in said report contemplated the construction of a new lock and dam in the vicinity of Troy, N. Y., about 1,400 feet north of the State dam, the removal of said State dam, and the continuation of the channel from deep water in the lower river through said State dam to Waterford, it being stated in said report that "it is advisable for the General Government to undertake the improvement of the Hudson River from deep water up to Waterford, *provided all existing power rights or privileges affected by the improvement are extinguished by the State of New York,*" etc.

After the passage of the act, when it became apparent that the prosecution of the work would be facilitated by the immediate abandonment of the State lock and dam, the matter was brought to the attention of the governor of New York by War Department indorsement of August 5, 1910, on Engineer Department letter of August 4, 1910. In response to this communication the State canal board, at a meeting held on November 2, 1910, passed a resolution formally abandoning the State lock and dam and authorizing their destruction, this abandonment being understood to include the extinguishment of the existing power rights and privileges connected with said dam. Subsequent to the passage of this resolution the State board of public works transmitted to the Secretary of War a copy of the same and advised him that possession might be taken of the structures at any time, *and that the water rights at either end of the dam had been canceled*. Thereupon the Engineer Department proceeded with the necessary preliminary operations, involving the expenditure of considerable sums of money, and entered into a contract for dredging and rock excavation covering nearly \$300,000 worth of work, to be commenced during the present month.

After these expenditures and the execution of said contract the governor of New York presented a resolution of the State canal board approved April 28, 1911, rescinding the aforesaid resolution of November 22, 1910, abandoning the lock and dam, indicating an intention to retain the control of these structures, and requesting the War Department to amend the adopted project for the improvement of the river.

As a result of this attitude on the part of the State authorities a conference was held in Albany on May 9, 1911, with the governor, the attorney general, and the State engineer of the State of New York, at which Col. W. M. Black, the local engineer officer, who represented the United States at the conference, was requested to submit, for the views of the War Department, certain questions, which are substantially the first three questions hereinafter submitted for your opinion. If the expenditure of the entire appropriation is conditioned upon the consent of the State to the destruction of the State dam and the extinguishment of the power rights now existing at said dam, it will appear that the withdrawal of the consent heretofore given, if operative, places the War Department in an embarrassing position, since considerable expenditures have been made and a contract let on the faith of such consent.

Upon this state of facts you request my opinion on the following questions:

(1) Whether the portion of the appropriation made by the act of June 25, 1910, which is to be expended otherwise than in the construction of the proposed lock and dam, may be expended without the consent of the State of New York to the removal of the present dam.

(2) Whether any portion of the appropriation is available for expenditure without the extinction of the power rights now existing at said dam and referred to in the report mentioned in the appropriation.

(3) Whether if the United States should build the proposed dam, as authorized by the act of Congress, and thereby create water power, the water power so created belongs to the United States.

(4) Whether, in view of the fact that the State gave its consent to the abandonment and destruction of the State dam at Troy, by resolution of the State canal board of November 22, 1910, and provided, it is understood, for the extinction of the water rights connected therewith, together with the fact that the United States has proceeded on the faith of such action on the part of the State authorities with the work of the improvement, it would be competent for the State authorities to rescind such action, or whether the resolution of April 28, 1911, should not be regarded as inoperative to accomplish its purpose.

It appears from House Document No. 719 that the Federal Government has for some years past been engaged in deepening and widening the channel of the Hudson in this vicinity, several million dollars having already been expended for the work under appropriations by Congress, and that the work authorized by the act of June 25, 1910, is in the nature of an enlargement of the former project, which did not, however, include the removal of the present State dam and the construction of a new dam. It also appears from such reports that the present plan contemplates a further deepening of the channel of the river beyond that authorized by the former project.

In the report of the Chief of Engineers embodied in House Document No. 719, it is said:

The plan submitted contemplates the construction of a new lock and dam in the vicinity of Troy, about 1,400 feet north of the existing State lock and dam, which will be removed, and the excavation of a channel from deep water in the lower river to Waterford 12 feet deep at all stages. Below Troy the general width of the channel is to be 400 feet, except at Albany, where it widens into a basin. In the vicinity of Troy the width above the dam is to be 200 feet, widening into a basin just below the dam. For a short distance below the basin there will be a double channel, one on either side of Adams Island with widths, respectively, of 150 and 200 feet. Between the Delaware and the Hudson and Congress Street bridges the width is to be 500 feet, below which it narrows to the proposed general width of 400 feet.

This work will extend nearly as far south as Hudson and includes dredging, rock excavation, construction of a lock, dam, and mooring piers, and removal of the old lock and dam, all at an estimated cost of \$5,186,064. The district officer considers the improvement worthy of being undertaken by the United States and states that if the project is approved and work authorized, provision should be made for executing it under the continuing contract system, the amount required for the lock and dam to be provided by a cash appropriation of \$300,000, and the balance to be made available within two years in order to insure completion within three working seasons. An initial appropriation of \$1,000,000 is required for the work below the dam.

These reports have been considered by the Board of Engineers for Rivers and Harbors, and in its opinion it is advisable for the General Government to undertake the improvement of the Hudson River from deep water up to Waterford, *provided all existing waterpower rights or privileges affected by the improvement are extinguished by the State of New York*, it being understood, however, that both plans and estimates are general in character and require further careful study, particularly with reference to the low-water plane and its bearing upon the elevation of the lower sill of the lock. The board further states that the cost of maintenance of this improvement will probably not be excessive.

If it be the policy of Congress to make the connection of the navigable channel of the Hudson River with the State canal by extending the former channel through and above the State dam at Troy and by the construction of a new lock and dam, I agree with the district officer, who is also division engineer, and with the Board of Engineers for Rivers and Harbors that Hudson River is worthy of improvement in this connection at the cost specified.

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The district officer has been informed by the canal board that it is ready to abandon the present lock and dam as soon as new structures are constructed by the United States, and that the project submitted meets with the approval of the advisory board of canal engineers.

In the report of Col. W. M. Black, of the Corps of Engineers, also embodied in said House document, it is said:

Certain manufacturing establishments on the east and west banks of the river are now using power developed by the dam under leases obtained from the State of New York. The lease for the east side was obtained in 1832. It may be summarized as follows:

The lease is for the use of one-half of “* * * the surplus waters created by the erection of the State dam in the Hudson River * * * for the term of 990 years.”

The lessees are to pay to the State * * * \$50 for the first year, with an increase of \$50 a year for every year thereafter until it amounts to the sum of \$300 a year and then to continue at the said sum of \$300 a year for the remainder of said term.

The conditions of the lease stipulate that the lessees may have “* * * the use of the surplus water which may be taken at the east end of the aforesaid dam and not exceeding one-half of the quantity which may be taken at both ends of said dam, such surplus water to be taken and drawn from the said dam at such place and in such manner and be discharged at such place and in such manner as the acting canal commissioner or the canal commissioners shall from time to time direct; saving and reserving to the said parties of the first part the right wholly to resume the waters hereby conveyed and the privileges hereby granted, and to control and limit the use of said water and privileges whenever, in the opinion of the canal board or of the legislature, the necessary supply of water for use of any State canal or the safety of such canal, or works connected therewith, shall render such resumption, control, or limitation necessary; and in case any such resumption shall be made or control or limitation imposed no compensation or damages shall be allowed for any improvements or erections made, or which may be made under or in consequence of this grant or lease. And also saving and reserving to the said parties of the first part the right, without making any compensation to the said parties of the second part, or any other person claiming under them, wholly to abandon or destroy the work, by the construction of which the said surplus water has been created whenever, in the opinion of the canal commissioners, the occupation and use of the said work shall cease to be advantageous to the State.”

The lease granted for water for the west bank was made in 1835 for the same term of years and in similar form with similar provisions.

Under these leases certain manufacturing establishments on the east bank have been using about 1,740 horsepower per year and those on the west bank about 190 horsepower. The State authorities have permitted these establishments to raise the crest of the dam by flashboards and to store water by night for use during the day, causing fluctuations in the pool level during the season of lowest water, which might be inadmissible when the new barge canals are in full operation. It is probable that when the new dam is built there will be surplus water sufficient to develop at least 1,400 horsepower, which should be utilized. A small portion of this can be used for operating and lighting the lock; the remainder can be sold.

It will be noted that the abandonment of the existing structure by the State extinguishes these leases automatically. The legal successors of the canal commissioners are the canal board. I am informed that this body is ready to abandon the dam as soon as the United States has constructed a new lock and dam. The proposed change in location of the dam would not prevent the continued use of the surplus water for obtaining power by these establishments, for a flume can be constructed to supply it. New and mutually advantageous arrangements can be made if desired with the owners of these establishments for this purpose, or, since the removal of the site makes it possible to locate other new establishments in a position which would make it possible to utilize the power, with other parties. In other words, the change in location of the dam would not destroy any vested rights for the use of the power developed nor would such removal prevent the present users from continuing its use. It would, however, place the Government in a position to obtain an adequate return for such power. Time has not permitted an estimate of cost of a new flume to be made.

* * * * *

To recapitulate, attention is again invited to the fact that this report is submitted on account of the urgent need of beginning work at and near the State dam in order that the barge canal commerce may have access to the river as soon as the canals are opened. The detailed project has not yet been completed for the reason that its

formation was not directed by Congress until March, 1909, and the field work could not be completed until the end of November. Much study is yet required before definite recommendations can be made as to the details of the work. The estimates are approximate only, but are believed to be sufficient to cover the work required.

These estimates are as follows:

Channel from Waterford to dam.....	\$44,000
Lock, dam, and piers.....	547,100
Clearing river bed immediately below dam.....	106,250
Removal of old lock and dam.....	79,407
Basin below lock.....	239,270
Improvement between head of Adams Island and head of Breaker Island.	1,328,882
Improvement from head of Breaker Island to deep water at Hudson.....	2,369,695
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Total.....	4,714,604
Engineering and contingencies, 10 per cent.....	471,460
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Grand total.....	5,186,064

Of the above, the estimated cost of the work properly chargeable to the harbor at Troy is \$420,559; that for the harbor at Albany is \$105,000.

The cost of the work estimated for Coeymans, amounting to \$9,200, is not included in the above figures.

If this project is approved and the work authorized, provision should be made for executing the work under continuing contracts. Unless the dredging and rock excavation can be carried on under a large contract, it is probable that work of that character above and below the dam can be done most advantageously separately, as separate plants would have to be provided on account of the difficulty of passing the sloop lock. It is important that the work in the lock and dam should be started at the earliest practicable date, and that the connecting channel between the new lock and the existing channel below should be started in time to permit its completion immediately after the new lock and dam are built, in order that the commerce through the canals may be stopped for as short a time as practicable. The sum which can be expended advantageously in the coming year under a continuing contract for the construction of a lock and dam is \$300,000. The entire sum should be made available within two years in order that the work can be completed within three working seasons.

In the work below the dam \$1,000,000 can be expended advantageously in the next working season. The money should be made available for the improvement of the Hudson between Waterford and New York Harbor.

It seems clear that the ultimate extinguishment by the State of New York of all existing water-power rights or privileges affected by the improvement in question, through the abandonment of the said dam or otherwise, was one of the conditions referred to by Congress in appropriating for the work in question, and I understand you have so construed the act.

The resolution of the canal board of November 22, 1910, in regard to the cancellation of existing water rights and the abandonment of said dam and lock, as appears from the certified copy thereof transmitted by you, reads as follows:

Whereas by the provisions of chapter 147 of the laws of 1903, and the acts amendatory thereof and supplemental thereto, the State has directed the improvement of that portion of the canal system of the State which lies in the thread of the Hudson River from Congress Street, in the city of Troy, to Waterford; and

Whereas in the carrying out of that improvement so directed by the legislature it now is apparent that the existing State dam and lock at Troy must be destroyed; and

Whereas on the 2d day of January, 1832, and on the 26th day of November, 1835, the people of the State of New York, by the then canal commissioners, executed two leases, the first to the Lansingburgh Dry Dock & Hydraulic Co. and the second to one George Tibbits, whereby there was conveyed to said parties all of the surplus water created by the said Troy dam and lock; and

Whereas in both of said leases certain rights and privileges were reserved to the State by the following clause, incorporated in both instruments: (Here follows the clause quoted in the report of Col. Black, of the Corps of Engineers, above set forth, beginning with the words "saving and reserving"); and

Whereas the Hon. Frederick C. Stevens, superintendent of public works, as successor to the said canal commissioners, has this day notified this board that in his opinion the occupation and use of the structures by whose maintenance the surplus water conveyed by said leases has been created have ceased to be advantageous to the State, and by virtue of the authority and power reserved to him, as successor to the canal commissioners, has recommended that the said structures be wholly abandoned and that their destruction be authorized and approved: Now be it

Resolved, That it is the opinion of this board that the whole of the surplus water created by said dam and lock is now necessary for the use of the canals of the State and the works connected therewith, authorized and directed by said chapter 147 of the laws of 1903, and the acts amendatory thereof and supplemental thereto, and that the said surplus water be, and the same hereby is, wholly resumed.

And be it further resolved, That the said dam and lock, by the construction of which the said surplus water has been created, be, and the same hereby are, abandoned, and the destruction thereof be, and the same is hereby, authorized.

And be it further resolved, That the superintendent of public works be, and he hereby is, directed to serve a copy of this resolution upon the said lessees, their successors or assigns.

It further appears from affidavits transmitted that copies of this resolution were served upon the lessees, their successors or assigns, as directed therein.

As stated in your letter:

Subsequent to the passage of this resolution the State board of public works transmitted to the Secretary of War a copy of the same and advised him that possession might be taken of the structures at any time, and that the water rights at either end of the dam had been canceled. Thereupon the Engineer Department proceeded with the necessary preliminary operations, involving the expenditure of considerable sums of money, and entered into a contract for dredging and rock excavation covering nearly \$300,000 worth of work, to be commenced during the present month.

In my opinion the State canal board, assuming that the existing water-power rights or privileges in question had been properly extinguished by the proceedings indicated in its resolution of November 22, 1910, could not by attempting to rescind such action after it had been accepted and acted upon by the Federal Government, as stated by you, prevent the act of Congress authorizing the improvement of the river from becoming operative. The conditions specified in the act of Congress as to the extinguishment of such rights or privileges having been met it was beyond the power of the State thereafter to interfere with the improvement authorized, in view of the paramount control of Congress over the Hudson River as a navigable waterway of the United States.

It is to be observed that the action of the canal board purports to have been taken pursuant to chapter 147 of the laws of the State as amended, directing the improvement of that portion of the State canal system which lies in the thread of the Hudson River from Congress Street in the city of Troy to Waterford (1 Consolidated Laws of New York, p. 521, et seq.), and which, it is understood, includes the portion of the river covered by the congressional improvement.

The Chief of Engineers in his report to the Secretary of War of January 15, 1907, in regard to the extension of the then existing project for the improvement of the Hudson River to Waterford, said (H. Doc. No. 539, 59th Cong., 2d sess.):

Hudson River is at present being improved by the United States under a project which provides for securing a channel depth of 12 feet up to the State dam at Troy. In connection with this dam there is a lock operated by the State of New York, which has a depth of less than 5 feet over the lower miter sill. Above the dam there is slack water with a navigable depth of about 10 feet for a distance of 2.6 miles to the mouth

of the fourth branch of the Mohawk River at Waterford, at which point there is at present a connection with the Champlain Canal, and where the barge canal being constructed by the State to replace the old Erie Canal will leave the Hudson River.

The improvement now proposed is the extension by the United States of the 12-foot project from its present terminus at the State dam to the town of Waterford. The works necessary consist of a new lock and dam to replace the existing State structures and of certain excavation to project dimensions both above and below the dam. In his report of December 28, 1906, Col. Lockwood presents alternative estimates of \$934,900 and \$1,124,100 as the cost of constructing the proposed channel on the east and west sides of the river, respectively.

For the reasons given in its final report of the 7th instant, also herewith, the Board of Engineers for Rivers and Harbors concurs in the opinion of the district officer that the location of the new channel on the west shore of the river has advantages in its favor sufficient to justify its selection, even at the estimated additional cost. The board believes that the cost of this improvement is reasonable when compared with the benefits which may be expected to result therefrom and that it is advisable to extend the existing project in accordance with the plan proposed.

The work contemplated in these reports is entirely feasible from an engineering standpoint. It forms a part of the work proposed by the State of New York for its enlarged barge canal and is included by the State engineer and surveyor in his estimate for the canal. In its relation to the New York barge canal it is in a position which resembles, in a certain degree, that of the enlargement of Black Rock Harbor, at the other end of the canal. This enlargement is also included in the estimate of the State engineer and surveyor alluded to above. In both cases the idea is expressed that if the work is not undertaken by the United States Government it will have to be done by the State of New York.

By the amendment to chapter 147 of the laws of 1903, made by chapter 494 of the laws of 1907 (1 Consolidated Laws of New York, p. 533), the legislature has provided that—

The waters, surplus or otherwise, created or impounded as a result of the improvement of the Erie, Champlain, and Oswego Canals, pursuant to the provisions of this act, or from the construction of any dam or dams, mole or moles, reservoir or reservoirs, or other structures connected therewith, shall not be leased, sold, or otherwise disposed of until the improvement of said canals as contemplated in this act and amendments thereto shall have been finally completed, nor thereafter until authorized by statute setting forth specific terms, conditions, and restrictions governing the same.

The constitution of the State of New York, section 8 of article 7, provides that "the legislature shall not sell, lease, or otherwise dispose of the Erie Canal, * * * but they (it) shall remain the property of the State and under its management forever."

The fact that the water power created by the construction of a new lock and dam by the United States would belong to the United States (Green Bay and Mississippi Canal Co. v. Patten Paper Co., 172 U. S., 58), and that the construction of the new lock and dam by the United States would divest the State of jurisdiction over that portion of the canal, appear to have actuated the State canal board in attempting to rescind its resolution of November 22, 1910. Thus, the rescinding resolution of April 28, 1911, according to the copy transmitted, states:

Whereas it is the policy of this State to conserve its natural resources and develop them for the benefit of the people; and

Whereas it may be claimed that the above resolution may interfere with such policy and permit the use of such water by some other agency than the State and may remove from the jurisdiction of the State of New York an integral part of the canal system of the State, and it being considered that such an abandonment is neither expedient, desirable, nor economical: Therefore be it

Resolved, That the resolution above mentioned, adopted November 22, 1910, be, and the same is hereby, rescinded, * * *

That the State canal board had authority to abandon the State lock and dam and authorize their destruction in furtherance of the

improvement authorized by the State would seem to be unquestioned. But whether it could do so in anticipation of and for the purpose of giving effect to the improvement authorized by Congress, which would result in Federal control over that portion of the Hudson occupied by the new lock and dam, and used as a portion of the State canal, is more doubtful. The State might perhaps do it, notwithstanding the constitutional provision referred to, in view of the fact that this portion of the canal is in a navigable waterway of the United States, and therefore not subject to absolute ownership by the State, but necessarily under Federal jurisdiction whenever Congress chose to exercise it. But the canal board does not possess legislative power and can only do that which it is authorized by the legislature to do.

The action indicated in the resolution of the canal board of November 22, 1910, may, however, be good as an extinguishment of the existing leases and a resumption of the surplus water created by the State lock and dam, although not as an abandonment of those structures. The condition of the action of Congress is that all existing power rights and privileges affected by the improvement authorized be extinguished. This, it was supposed, would be effected by the abandonment of the State lock and dam by the canal board, but if otherwise effected, the condition would be substantially met. The idea seems to have been to relieve the Federal Government of any possible claim for damages arising out of the destruction of the State lock and dam. The fear seems to have been an idle one, in view of the paramount control of Congress over the Hudson River as a navigable waterway of the United States, and the fact that the rights and privileges referred to were, both in terms and as a matter of constitutional law, dependent upon the maintenance of the State lock and dam, which Congress could declare an obstruction to navigation and require the State to remove it at its own expense. (*Monongahela Navigation Co. v. The United States*, 148 U. S., 312, 336; *West Chicago Street Railroad Co. v. Chicago*, 201 U. S., 506; *Union Bridge Co. v. The United States*, 204 U. S., 364; *Monongahela Bridge Co. v. The United States*, 216 U. S., 177.) But however that may be, Congress did not choose to exert its whole power, but made the expenditure of the appropriation for the improvement authorized dependent upon the extinguishment by the State of the power rights or privileges affected thereby.

I understand that you do not wish to antagonize the State authorities in this matter, who have indicated that they prefer themselves to construct that part of the proposed improvement which involves the construction of a new lock and dam and the destruction of the present lock and dam, in order to retain jurisdiction and control over the same in the State; that your purpose is to submit this matter to Congress, and that you are now concerned only with the validity of the contracts which have been let for the construction of the work involved in the improvement authorized not dependent upon the construction of the new lock and dam or the destruction of the State lock and dam, and the legality of the expenditures already made, these contracts and the expenditures having been made upon the faith of the action taken by the State canal board in its resolution of November 22, 1910.

Under the circumstances stated, and in view of the fact that the action indicated in the resolution of the State canal board of Novem-

ber 22, 1910, was accepted and acted upon by you as a sufficient compliance with the terms of the act of Congress authorizing the improvement in question; that this was a matter primarily for you to determine, and that the insufficiency of such action to extinguish the existing power rights and privileges affected by the improvement is not clearly apparent, I think that the action taken by you should be upheld, notwithstanding the attempt of the canal board to rescind that resolution, and that you are justified in making such further expenditures under said appropriation as the interests of the United States in the premises seem to require.

What has been said renders it unnecessary to reply categorically to the questions submitted.

Respectfully,

GEORGE W. WICKERSHAM.

The SECRETARY OF WAR.

HUNTINGTON, LONG ISLAND, N. Y., *September 15, 1911.*

Memorandum for the Chief of Engineers:

1. I approve of so much of the report of the Acting Chief of Engineers dated July 20, 1911, as recommends:

That so much of the work of rock excavation and dredging to secure the project depth and width of channel from deep water in the lower river up to Waterford as is not dependent upon the construction of the new lock and dam or the destruction of the existing structures, be continued and carried forward as the interests of the United States may require.

And I direct that such work be proceeded with at once.

2. The work on that portion of the project which involves the construction of a new lock and dam to replace the existing State structures, should be postponed until I shall have further time to determine whether to adopt the recommendation of the Acting Chief of Engineers and submit the matter to Congress, or proceed with the work as originally authorized, on the assumption that the action of the State canal board of April 28, 1911, was void and ineffective. On this question I have asked the Judge Advocate General and the law officer of the Insular Bureau to prepare me opinions.

3. I have written to the authorities of the State of New York, notifying them of the substance of this memorandum.

HENRY L. STIMSON,
Secretary of War.

NEW YORK BOARD OF TRADE AND TRANSPORTATION,
New York, September 12, 1911.

Hon. HENRY L. STIMSON,
Secretary of War, Washington, D. C.

DEAR SIR: By direction of the executive committee of the Barge Canal Terminal Conference, I have the honor to hand you herewith a copy of preamble and resolution adopted by it at a special meeting held in New York City on Friday last, the 8th instant.

Very respectfully,

FRANK S. GARDNER,
*Secretary of Executive Committee,
Barge Canal Terminal Conference.*

RESOLUTION

Unanimously adopted by the executive committee of the Barge Canal Terminal Conference at a meeting held September 8, 1911:

Whereas the present depth of the channels of the upper Hudson River is insufficient to admit of the passage of canal barges which will navigate the improved barge canal of this State when the same shall have been completed, and the General Government has made an appropriation for the necessary improvement of the Hudson River; and

Whereas Congress imposed the condition that the appropriation for the improvement of the Hudson River should not be available until the then existing leases of the surplus waters available for power at the State dam at Troy should have been terminated; and

Whereas the canal board of the State of New York, on the 22d day of November, 1910, by a resolution formally adopted, terminated the said leases, thereby complying with the conditions imposed by Congress; and

Whereas their successors, the canal board of the State of New York, on the 26th day of April, 1911, by a resolution rescinded the resolution of November 22, 1910, and thereupon the work of improvement of the Hudson River which was about to be commenced was postponed by the War Department pending a decision of the questions raised by the action of the canal board of April 26, 1911, and no work upon said improvement has yet been done; and

Whereas such delay of the improvement of the river threatens an indefinite postponement which would prevent the passage of boats from the barge canal to the Hudson River and render such canal improvement of practically no avail to the State; and

Whereas the honorable Secretary of War referred to the honorable Attorney General of the United States, for his opinion, the controversy thus raised, and it is understood that the Attorney General of the United States has expressed his opinion in effect that the action of the canal board taken April 26, 1911, was of no effect, and that the State of New York could not interfere in any manner in the procedure. Therefore,

Resolved, That in our opinion the Secretary of War should immediately commence work upon the improvement of the upper Hudson River as provided for by Congress, and we earnestly petition the Secretary of War to immediately take steps for the prosecution of such work.

A true copy.

FRANK S. GARDNER, *Secretary*.

Members of executive committee Barge Canal Terminal Conference: George Clinton, Buffalo, chairman; Lewis Nixon, New York; William J. Roche, Troy; Henry W. Hill, Buffalo; Frederick W. Cameron, Albany; John D. Kernan, Utica; Charles E. Reid, New York; Howard D. Hadley, Plattsburg; E. R. Carhart, New York; Frank S. Gardner, New York; A. R. Kessinger, Rome; Nelson B. Killmer, Brooklyn.

CUSTOMHOUSE,
New York, September 13, 1911.

MY DEAR MR. SECRETARY: I do not know whether, in the multitude of matters you have to handle, the situation set forth in the inclosed copy of resolutions of the barge canal terminal conference and newspaper clipping attached has come to your personal knowledge, and in view of the importance of the matter, I take the liberty of bringing it to your notice because of the feature pointed out that delay in this matter is not only very serious as regards the approach of the early use of the New York State barge canal system, but is also preventing much-needed action in the improvement of the upper Hudson, there being at present a number of places between New Baltimore and Albany where there is less than $9\frac{1}{2}$ feet of water at low tide and with strong northwesterly winds. Moreover, in some of these places the channels are less than 150 feet in width and the navigation of the upper river at the present time is very seriously impeded. I know something about the situation because I still keep my interest in Albany, where I have lived all my life. If the opinion of the Attorney General is correct, that the action of the canal board taken April 26, 1911, was of no effect and that the State of New York could not interfere in any manner in the procedure, are you not in a position where you can cause action to be taken?

I hope you are well and enjoying the duties of your position.

Sincerely, yours,

WM. LOEB, Jr.

Hon. HENRY L. STIMSON,
Secretary of War, Washington, D. C.

[Second indorsement.]

UNITED STATES ENGINEER OFFICE,
New York, N. Y., October 17, 1911.

1. Respectfully returned to the Chief of Engineers, United States Army, the necessary record having been made.

W. M. BLACK,
Colonel, Corps of Engineers.

PECULIAR, THIS ACTION.

IT LOOKS UNBUSINESSLIKE AT THE VERY LEAST—BROKEN FAITH IS ALLEGED—DIX-MURPHY CANAL BOARD RESCINDS CONTRACT WITH FEDERAL GOVERNMENT, POSTPONED DEEPENING OF UPPER HUDSON, AND DELAYED OPENING OF NEW BARGE CANAL SYSTEM.

ALBANY, N. Y., September 5.

It is a serious thing to say, but the truth is that the State administration, as a consequence of the hasty and ill-advised action of the canal board, has postponed for probably a year the use of the improved Champlain Canal and cast doubt upon the date of the opening of the improved Oswego and Erie Canals, upon which the State is expending \$108,000,000 in order to permanently reduce transportation charges. The State has broken faith with the United States Government, has caused an indefinite postponement of the expenditure of \$5,186,084 for the deepening of the upper Hudson, about to be begun, and has thrown upon the taxpayers of the State an unnecessary expenditure of over \$1,000,000 that the United States had assumed. And for what reason? Chiefly to enable the State to retain its right to a surplus water power,

the lease of which has never yielded it more than \$600 in any year. Under the new conditions the surplus water could not possibly yield the State enough revenue to reimburse it for the expense of constructing the dam, the locks, and other necessary structures.

Parts of the upper Hudson have now a depth of less than 10 feet. The improved canals will have 12 feet depth. The \$5,186,084 appropriation is intended to deepen the upper Hudson to the 12-foot depth of the canals throughout and to build the new locks and dam. In doing this the Federal Government reserves to itself the control of the surplus waters and the revenue derived therefrom.

Ten years ago the hope was expressed that the United States might be induced to build the dam and locks above Troy, and previous State administrations did all possible to persuade the United States to do this work at its own expense, with the result that the river and harbor act of 1910 so provided. It became necessary for the State to formally abandon the present dam and lock in order to terminate a lease of the surplus water for many years enjoyed by a hydraulic company, so as to allow the United States right of way to build the new works.

Last fall the previous canal board abandoned the existing dam and locks and authorized their destruction, in strict conformity with the agreement. Then the present canal board late in April rescinds the action of the previous board, with the approval of the attorney general and Gov. Dix.

State Engineer Bensel suggested this action to the canal board on one day and on the next day the board approved.

It made no effort to get in touch with the United States authorities to ascertain if any adjustment of the matter of the surplus water was possible. It did not seek to learn what effect the adoption of Mr. Bensel's suggestion would have upon the prosecution of the other work upon which the United States was about to proceed. And yet Mr. Bensel must have known that the upper Hudson improvement is urgently needed by boats navigating that part of the river, besides which such improvement is essential to the economical use of the new canals by the barges that will navigate them. Gov. Dix merely informed the Secretary of War of the action of the canal board and inclosed a copy of its resolution rescinding the action of the previous board.

The Army engineers in charge of the work are all ready now to let contracts under the \$5,186,084 appropriation. They say the work would begin early in 1912, but that it would take two or three years to complete it. The new Champlain Canal is to be ready in the spring of 1913, the Oswego Canal and that part of the Erie that connects the Oswego with the Hudson is to be opened early in 1914, and the remainder of the new Erie Canal is to be ready at the opening of navigation in 1915. So that the best possible connection of the new Champlain Canal with the deepened Hudson via the new Troy locks will be in 1914, a year after that canal will be ready for use. But with the Federal work held up, its resumption indefinitely postponed and possibly dependent upon new congressional legislation, there is no telling when it will be finished. If the State builds the dam and locks, it must select a site, and then prepare plans and specifications. This would probably postpone letting the contracts until next year and the undertaking of the work much later than if the United States commenced now. There appears no valid reason for the action of the present canal board in causing this delay and doubt and saddling the State with this unnecessary expenditure of over \$1,000,000.

As everyone knows, the railroads have bitterly opposed the enlargement of the canals, fearing a reduction in their revenues through the reduction in their rates that will be necessary to enable them to compete with the canals. Nothing could better suit these railroads than to have the time set for the opening of the improved canals indefinitely postponed, as that would give them just so much more time in which to maintain their present high rates that are so restrictive of profitable manufacturing in this State. But just that is what the State administration has accomplished.

However the people may feel if thwarted in their hopes of low freight rates at an early date because of the shortsighted and most singular action of the present administration, the railroads are certainly under lasting obligations to it.

RESOLUTIONS

Unanimously adopted by the executive committee of the Barge Canal Terminal Conference at a meeting held September 8, 1911:

Whereas the present depth of the channels of the upper Hudson River is insufficient to admit of the passage of canal barges which will navigate the improved barge canal of this State when the same shall have been completed and the General Government has made an appropriation for the necessary improvement of the Hudson River; and

Whereas Congress imposed the condition that the appropriation for the improvement of the Hudson River should not be available until the then existing leases of the surplus waters available for power at the State dam at Troy should have been terminated; and

Whereas the canal board of the State of New York, on the 22d day of November, 1910, by a resolution formally adopted, terminated the said leases, thereby complying with the conditions imposed by Congress; and

Whereas their successors, the canal board of the State of New York, on the 26th day of April, 1911, by a resolution rescinded the resolution of November 22, 1910, and thereupon the work of improvement of the Hudson River which was about to be commenced was postponed by the War Department pending a decision of the questions raised by the action of the canal board of April 26, 1911, and no work upon said improvement has yet been done; and

Whereas such delay of the improvement of the river threatens an indefinite postponement, which would prevent the passage of boats from the barge canal to the Hudson River and render such canal improvement of practically no avail to the State; and

Whereas the honorable Secretary of War referred to the honorable Attorney General of the United States for his opinion the controversy thus raised, and it is understood that the Attorney General of the United States has expressed his opinion in effect that the action of the canal board taken April 26, 1911, was of no effect, and that the State of New York could not interfere in any manner in the procedure: Therefore,

Resolved, That in our opinion the Secretary of War should immediately commence work upon the improvement of the upper Hudson River as provided for by Congress, and we earnestly petition the Secretary of War to immediately take steps for the prosecution of such work.

A true copy.

FRANK S. GARDNER, *Secretary*.

HUNTINGTON, LONG ISLAND, N. Y., *September 16, 1911.*

Hon. WILLIAM LOEB, Jr.,

Collector's Office, Customhouse, New York, N. Y.

MY DEAR MR. COLLECTOR: I have your letter of September 13 in reference to the Troy Dam situation. I have already directed the Chief of Engineers to proceed with so much of the work of improving the Hudson River as is not dependent upon the question of the

destruction and replacement of the existing State dam. This latter question I shall have to reserve for further investigation and negotiation. The situation is not so easy and simple as the Barge Canal Terminal Conference people seem to think, nor is it so completely solved by the Attorney General's opinion as they apparently believe. By going ahead with the rest of the work, however, I hope to minimize the unavoidable delay which has been caused by the change of policy of the State authorities. You may rest assured that I appreciate the importance of the case and that I will push it ahead as fast as possible. But it is not quite fair to lay on my shoulders the blame for the delay which has been caused by the change of mind of the people up at Albany.

Very sincerely, yours,

HENRY L. STIMSON.

HUNTINGTON, LONG ISLAND, N. Y., *September 15, 1911.*

Hon. JOHN A. DIX,

Governor of New York, Albany, N. Y.

SIR: Referring to the former correspondence between yourself and the War Department with reference to the improvement of the Hudson River under the appropriation made by the act of June 25, 1910, I have, in reliance upon the opinion of the Attorney General of the United States, directed the Chief of Engineers to proceed at once with so much of the work of rock excavation and dredging to secure the project depth and width of channel from deep water in the lower river up to Waterford as is not dependent upon the construction of the new lock and dam or the destruction of the existing structures.

As to the remainder of the work, namely, that which involves the construction of a new lock and dam to replace the existing State structures, I have not yet determined what action I shall take. I am having a further examination made with a view to settling in my own mind more fully the respective rights and duties of the various parties concerned, and as soon as that examination is completed I will communicate again with you.

Very respectfully,

HENRY L. STIMSON,
Secretary of War.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, October 23, 1911.

Col. W. M. BLACK,

Corps of Engineers, New York, N. Y.

COLONEL: It is requested that if there is any correspondence on file in your office relative to the recently adopted project for improvement of Hudson River that shows that prior to its adoption by Congress the authorities of the State of New York were favorable to the provision relating to the abandonment of the State lock and dam and the extinguishment of all existing water rights or privileges or that the action of Congress was influenced by the advocacy of their representatives in that body, you forward same to this office.

By command of the Chief of Engineers:

Very respectfully,

E. N. JOHNSTON,
Captain, Corps of Engineers.

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
New York City, November 6, 1911.

The CHIEF OF ENGINEERS, UNITED STATES ARMY,
Washington, D. C.

GENERAL: In compliance with department letter of October 23, 1911, E. D. 7771, I have the honor to submit the following extracts from the records of this office relative to the recently adopted project for the improvement of the Hudson River, showing that prior to its adoption by Congress the authorities of the State of New York were favorable to the provision relating to the abandonment of the State lock and dam and the extinguishment of all existing water rights or privileges or that the action of Congress was influenced by the advocacy of their representatives in that body. The actual correspondence in this office relating to the above is very meager, the agitation for the improvement of the reach between Troy and Waterford by the United States apparently having been carried on independently of the office.

2. The present project was adopted in the act of June 25, 1910, as the result of a report on preliminary examination ordered in the act approved March 3, 1909. In the act of March 3, 1905, Congress ordered a preliminary examination of the Hudson River with a view to extending the existing project to Waterford. The report on this, submitted under date of January 19, 1907, is favorable to the project and provides for the substitution of a new dam built by the United States for the present State dam at Troy. In this report no mention is found of the then existing leases made by the State for the use of surplus water, though to provide for the adoption of the project by the United States the State dam would necessarily have to be abandoned, carrying with it extinguishment of the leases. While no correspondence has been found on file relating to this project, from a letter dated April 2, 1906, signed by Hon. Henry A. Van Alstyne, State engineer and surveyor, it would appear that there had been conferences on the matter between the United States engineers and the representatives of the State. A copy of the letter is herewith marked "A." Though the correspondence files of this office show no record of the action of the State officials, it is a matter of common knowledge that such action has been taken. It is respectfully suggested that Maj. J. B. Cavanaugh, lately assistant in the Office of the Chief of Engineers, in charge of the river and harbor division, could testify as to this.

3. In the official State publications in this office there are numerous allusions to this subject, as shown by the following extracts:

In the report on the barge canal by Hon. Edward A. Bond, State engineer and surveyor, 1901, entitled "State of New York, Report on the Barge Canal from the Hudson River to the Great Lakes, February 12, 1901," page 28, third paragraph:

IMPROVEMENTS BY UNITED STATES GOVERNMENT.

The river and harbor bill, which has passed the House of Representatives, contains an item authorizing a survey and estimate to be made for the improvement of the Hudson River between the Troy dam and Waterford. It is believed that this bill will become a law before March 4, 1901.

On page 29 there is a reference to the Government doing the work at Black Rock Harbor as has subsequently been carried out. The final paragraph of this reference states:

This will render unnecessary any work by the State on the portion of the Erie Canal between Fort Porter and the sloop lock, and in fact render unnecessary any work between Tonawanda and Buffalo, it being understood that the present canal will be retained as a feeder.

On page 52 is found Table A, giving the estimated cost of barge canal. At the foot of this table is the following:

Improving Hudson River, Troy to Waterford.....	\$737, 683
Improving Black Rock Harbor to Buffalo.....	538, 051
	<hr/>
	1, 275, 734

It is believed that the United States Government will do this work. If not, this amount should be added to the above totals.

On page 86, being a report of the consulting engineers, the fourth paragraph reads as follows:

It is expected that the work in the Hudson River between Troy and Waterford will be performed by the United States Government and in the final estimate this quantity is not included.

On page 271:

DETAIL ESTIMATES, BY ROUTES.

Route No. 1A (the estimate for the barge canal does not include this improvement, being expected to be performed by the United States Government).—4 miles. From Congress Street Bridge, Troy, to mouth of Fourth Branch of Mohawk River via Hudson River. * * *

On page 592 an extract from the "Minutes of the sixth meeting of the board of advisory engineers of the canal survey, under chapter 411 of the laws of 1900, held on January 9 and 10, 1901," reads as follows:

Improvement by United States Government. The following motion was offered and passed by the board, Mr. Alfred Noble not voting:

"This board believes that it is safe to assume that the United States Government will make all necessary improvements in the Niagara River from Lake Erie to Tonawanda and of the Hudson River up to the mouth of the canal at Waterford required for the full completion of the barge waterway, and that the estimate of the cost of the State work can be limited to the canal between these terminal points."

4. In the report of the State engineer and surveyor, Hon. Henry A. Van Alstyne, for the fiscal year ending September 30, 1905, on pages 35 to 45, inclusive, there is an argument under the heading "The canalization of the Hudson River between Troy and Northumberland," presented by the State engineer, from which the following extracts may be taken:

No extensive surveys have been made between the Congress Street Bridge at Troy, N. Y., and Northumberland on the Hudson River, or between Lake Erie and Tonawanda on the Niagara River, as it is hoped that the United States Government will improve these rivers. * * *

The last United States river and harbor bill contained also an item which authorized the Chief of Engineers to make a survey and estimate of cost for improving the Hudson River between the Congress Street Bridge at Troy and the eastern terminus of the barge canal at Waterford. The Secretary of War and the Chief of Engineers of the United States Army have been requested by the State engineer to hasten as much as possible the work authorized by the river and harbor bill at these two places. * * *

New York asks for this help in connection with a department of the United States administration which has been favored with notably small appropriations. * * *

Will the Congress consider what would have been lost to the United States had not the New York canals been constructed? Will that distinguished body reflect what assured national benefits would have been impugned had the State government and the people lately yielded to the clamor of many who urged the abandonment rather than the renovation of the system and the expenditure of another hundred million of dollars? And will it refuse the well-deserved assistance, because, forsooth, it knows the community has energetically made up its mind to prosecute this beneficent international undertaking, even though it should have to stagger under the weight of other men's burdens?

5. In the report of the State engineer and surveyor, Hon. Frederick Skene, for the fiscal year ending September 30, 1907, under the head of "Aid by the United States Government," on page 10, the following appears:

One portion of the work, which was included in the original estimate, has not been planned for, inasmuch as it is hoped that the United States Government will undertake this part. This is the canalization of the Hudson between Congress Street Bridge at Troy and Waterford. Surveys have been made by the United States Engineers, but Congress has not yet acted upon their report. It is anticipated that the next river and harbor bill will contain an appropriation for this work.

On page 73, under the head "Erie Canal Residency No. 1," there is stated:

This residency extends from Congress Street Bridge at Troy to the west end of the lower Mohawk Aqueduct at Crescent. * * * No surveys have been made or construction work done on the lower portion of this residency from the Congress Street Bridge to Waterford, as it has been expected that the United States Government would undertake this portion of the improvement. * * *

6. In the report of the State engineer and surveyor, Hon. Frank M. Williams, for the fiscal year ending September 30, 1908, on page 12, is the report on "Federal aid for canalizing the Hudson," from which the following is an extract:

In my annual report of a year ago I stated that one portion of the work which was included in the original estimate had not been planned for, inasmuch as it was hoped that the National Government would undertake this part—the canalization of the Hudson between Congress Street Bridge, Troy, and Waterford * * * During the past year, however, I have taken steps to place this matter more clearly before the Rivers and Harbors Committee of Congress, and I trust that before long this action may be rewarded by the giving of Government aid. I prepared a memorial to the Congress of the United States, asking for this Federal assistance, setting forth, in what seems to me many almost unanswerable arguments the reasons for seeking this help. In his annual message to the legislature of 1905 the governor called attention to the fact that New York's share of the amount appropriated for rivers and harbors was but a trifle compared with the percentage which our commerce bears to the whole commerce of the United States, and he suggested that our Representatives in Congress be requested to press the claims of the State for larger appropriations. * * * To gain the added strength of cooperation I have joined forces with these State and national associations, thus hoping to obtain a proper outlet from the present terminus of the barge canal at Waterford to the port of New York.

On page 14 of the report, under the head of "Recommendations," is the following:

It is recommended that the legislature cooperate with this department in further endeavors to induce Congress to make appropriation for the work of canalizing the Hudson River from Troy to Waterford.

7. In the report of the State engineer and surveyor, Hon. Frank M. Williams, for the fiscal year ending September 30, 1909, under the heading "Hudson River, Troy to Waterford," on page 12, is an argument in favor of Federal aid, from which the following extracts are taken:

It is imperative that no time be lost in doing everything possible to hasten the procuring of a Government appropriation for canalizing the Hudson River between Troy and the barge-canal terminus at Waterford. * * *

Early in 1909 the superintendent of public works of this State was instrumental in securing a Federal appropriation for surveying the Hudson with a view to making plans and estimates for a suitable barge-canal outlet. About a month ago the chairman of the House Rivers and Harbors Committee assured a body of representatives from this State that he would do what lay in his power to induce the Government to undertake and complete work in the Hudson between Troy and Waterford in time for barge-canal traffic. * * *

I recommend that the legislature exert its influence to secure this appropriation and be insistent in its demands for speedy action.

8. In the report of the proceedings of the advisory board of consulting engineers (New York State Barge Canal) for the year 1904, on page 148 there appears the following letter to Hon. E. A. Bond, chairman advisory board of consulting engineers, from Thomas W. Symons, one of its members:

WASHINGTON, D. C., March 7, 1905.

Hon. E. A. BOND,
Chairman Advisory Board of Consulting Engineers,
Albany, N. Y.

DEAR SIR: I have the honor to inform you that immediately after the passage of the river and harbor bill by the House of Representatives I went to the Capitol and examined the bill and found that there was no item for the Hudson River between Troy and Waterford. I immediately went to Senator Depew and told him of the omission and gave him the draft of an item to go in as a Senate amendment. This he put in and it passed the Senate and was concurred in by the House, so that now there is authority for a preliminary examination, survey, and estimate for a 12-foot channel from Troy to Waterford.

With this item as a starter, there is every reason to believe that if our canal work goes on the Government will improve the Hudson to a 12-foot depth up to the end of the State canals proper at Waterford.

Very truly, yours,

THOMAS W. SYMONS.

9. In the report of the advisory board of consulting engineers for 1909, on page 28, under the head of "Hudson River improvement" there is a report, from which the following are extracts:

The advisory board of consulting engineers believes that it is proper for the United States Government to improve the Hudson River from the point at Waterford where the Erie Canal connects with it, on to the south, so that vessels engaged in canal navigation could freely pass to the seacoast, and has made it a portion of its duties to bring this about.

Then follows a report from Col. Symons, dated January 17, 1909, on the condition of the river, what was necessary to be done, and the advisable procedure in the matter. The following is an extract:

Third. I believe that efforts should now be made to have included in the probable river and harbor bill an item looking to a preliminary examination and plans and surveys for deepening the river from New York to Waterford, so as to provide a depth of 12 feet at all stages during the season of navigation. The proper wording of the item in the list providing for these examinations I conceive to be as follows:

"Hudson River, New York, with the view of providing a navigable channel which shall not be less than 200 feet wide and 12 feet deep at all times during the season of navigation, from deep water in the lower river to Waterford, including a lock and dam at Troy, suitable in size for all probable purposes of navigation and commerce." * * *

It is suggested that this matter be brought to the attention of the governor, the State engineer, and the superintendent of public works, in the hope that they will take the necessary steps to bring it to the attention of our Senators and Representatives in Washington, urging that the action as outlined be taken, unless something better be suggested.

On page 61 of the same report it appears that a resolution to that effect was adopted.

Col. Symons took this matter up with the members of the River and Harbor Committee of the House of Representatives in Washington, who were engaged in preparing

the river and harbor bill, and finally succeeded in having incorporated the desired item in the bill looking to the necessary surveys, plans, and estimate of cost for the work required to give a depth of 12 feet at all stages of water and not less than 200 feet wide. * * *

Col. William M. Black, Corps of Engineers, United States Army; A. C. Harper and R. H. Talcott, assistant engineers, appeared before the board at its meeting held November 23, 1909, and discussed with it matters in relation to the proposed improvement of the Hudson River by the United States Government from deep water below Albany, to the junction of the barge canal with the Hudson River, especially with regard to the construction of the proposed lock and dam above Troy; also matters in reference to a draw span over the Hudson River at Waterford and to the height and span of other bridges.

NOTE.—It was at this meeting that I explained to the advisory board my opinion as to the necessity for a change in the site of the lock and dam at Troy. My plans were approved by them. This was prior to the adoption of the project by Congress.

10. On page 322 of part 2 of the Report of Advisory Board of Consulting Engineers, 1910, is found the following extract from a meeting of the advisory board, held on December 29, 1910:

In compliance with the request of the canal board the advisory board delegated one of its members to attend said hearing. This representative of the board advocated the adoption of plans proposed by Col. W. M. Black, Corps of Engineers, United States Army, for a dam 1,400 feet north of the present State dam for the following reasons:

“(1) Because of the fact that the construction at the upper site will probably be completed, as proposed, at a cost of from \$150,000 to \$200,000 less than could similar work at a site below the present State dam.

“(2) Because said construction in said location above State dam could be begun more expeditiously and the work sooner placed under contract than if same were undertaken at a site below present State dam.

“(3) Because the location above the State dam makes it practicable to develop advantageously, say, 4,000 horsepower or more, and that power thus developed at the upper site could be competed for on equal terms by all interested parties, whereas for power generated at present site of dam the present users thereof are naturally in the most advantageous position to bid, and thus render impracticable free and equal competition for any power that may be developed at said present site.

“(4) Because the dam, in proposed upper location, greatly improves conditions for navigation in the vicinity of Troy. It affords a good harbor pool above the dam and makes possible the much-needed improvement to Troy's water front. It also lengthens the available harbor at Troy by some 1,400 feet, more or less.”

On page 31 of part 1 of the report, under the head “United States lock and dam at Troy,” appears the following:

By January 6, 1910, tentative plans for the proposed lock and dam at Troy in connection with the improvement of the Hudson River, authorized by the river and harbor bill of 1909, had so far progressed that they were presented by Col. W. M. Black, Corps of Engineers, and his assistants. These plans provide for locating the dam upstream from the present structure. Lieut. R. D. Black, in charge of this work, has been notified that the construction of this dam should be so conducted that the navigation of the Erie and Champlain Canals can pass from Waterford through the Hudson River and the present lock at Troy while the new work is being installed.

“Improving Hudson River, New York: For maintenance and continuing improvement in accordance with the report submitted in House Document Numbered Seven hundred and nineteen, Sixty-first Congress, second session, and with a view to completing said improvement within a period of four years, one million three hundred and fifty thousand dollars: *Provided*, That the expenditure of the amounts herein and hereafter appropriated for said improvement shall be subject to the conditions set forth in said document: *Provided further*, That the general plan for the improvement presented in said document shall be subject to such modification as to the location of the dam and in matters of detail as may be recommended by the Chief of Engineers and approved by the Secretary of War.”

In this connection the Secretary of War addressed a communication to his excellency the governor, explaining that it would be necessary, before commencement

of work, that the Government control all operations of the existing lock and dam and be empowered to remove them when the interests of the improvement require, thus necessitating formal abandonment by the State and revocation of the several existing leases of water rights. The Secretary of War further indicated that this action would work no hardship to the power users, as the Government might grant them licenses for the present and as provision is to be made for the development and lease of water power from the new structure.

Under date of August 23, 1910, the attorney general rendered the governor an opinion, embracing the following:

"I am of the opinion that the State of New York may not constitutionally abandon the said dam and lock as proposed, as that would contemplate a consequent permanent abandonment and surrender to the Federal Government and the subsequent maintenance and operation by it of what is now a part of the canal system of the State of New York.

"I am of the opinion, however, that the State may destroy and thereby in effect abandon the existing State dam and lock.

"Treating the proposition as one not for the abandonment, in the sense of relinquishment of control of any part of the canal or its management, but rather in the nature of a resumption of control of water, it would seem that under reservation of the leases, the superintendent of public works (with the approval of the canal board), if he is of the opinion that it will be advantageous to the State, may at any time provide for the destruction of the dam in question and the consequent extinguishment of all water-power rights and privileges."

The board, therefore, on September 7, 1910, adopted the following resolution:

"*Resolved*, That, believing the course hereafter described will be for the best interests of the State, the advisory board of consulting engineers recommends to his excellency the governor of the State of New York, to the State officers comprising the canal board and the land board, and to the superintendent of public works in his individual capacity, subject to proper legal restrictions and requirements, the revocation of revocable permits now in force, authorizing certain power users to develop power hydraulically from the State dam at Troy, and also that the State in due course and by proper legal means destroy said State dam at Troy, in order that the improvement by the General Government of the Hudson River under the river and harbor act of June 25, 1910, may be diligently and efficiently prosecuted.

"*Further resolved*, That the attention of the State officers is respectfully invited to the methods followed in the acquisition by the General Government of that portion of the Erie Canal in the vicinity of Black Rock which was taken for construction of ship canal from Lake Erie to the foot of Squaw Island in the city of Buffalo, which reconstructed canal will virtually form the western terminus of the barge canal of the State.

"*Further resolved*, That whereas the Government authorities in their communications to the State officials have announced their intention to care for navigation between Lansingburg and the pool below the sloop lock after the year 1910, it is recommended that their attention be called to the fact that beginning with the season of 1912 it will be necessary to divert Erie Canal navigation through the improved Erie Canal from the Upper Mohawk to Waterford, then via the Hudson River, and for that reason the Federal authorities be requested to so plan their work as to care for Erie Canal navigation through the Troy lock, beginning with the year 1912.

"*Further resolved*, That in making the aforesaid recommendations the board desires to record that it has in mind the constant efforts of Senators and Representatives in Congress, State officers, and commercial bodies and citizens of New York, who for years have sought to obtain adequate Federal appropriations for the improvement of the Upper Hudson. For the purpose of effecting said improvements it is necessary that the State take the action heretofore recommended by this board."

Upon invitation the board met with the canal board and members of both bodies waited upon the governor. The superintendent of public works and the attorney general were named by the canal board a committee to meet with the Federal authorities for discussion and report. As a result of this report the canal board recommended that the superintendent cancel leases for power generated at the sloop lock and dam. These leases were canceled under date of November 22, 1910, by the superintendent of public works. The board concurred in these recommendations to the legislature and urges as prompt action as possible in the matter.

It is the understanding of the board that in the construction of the lock and dam by the General Government it is proposed to maintain the upper pool during such construction at its present elevation; also to keep navigation open in the sloop lock. It is very essential that the upper pool be not lowered during the construction, as such lowering would interfere with the progress of contract No. 70.

The board desires to call attention to the fact that in the Government's project for improvement of the Hudson River from Albany to Lansingburg its improvement contemplates much more work than was included in the barge canal project, the river being greatly increased in width of channel and larger lock and better harbors for Troy being afforded.

11. The Barge Canal Bulletin is an official monthly publication sent out by the State engineer and surveyor to show the progress of the work on the canals. On page 39 of the bulletin for March, 1908, appears the following item:

CANALIZING THE HUDSON, TROY TO WATERFORD.

The State engineer had prepared a memorial to the Congress of the United States asking for Federal aid in canalizing the Hudson between Congress Street, Troy, and the beginning of the barge canal at Waterford. He will present this memorial within a short time. The commercial organizations of Albany and Troy are also taking steps to gain this same end.

12. In the bulletin for May, 1908, pages 95 to 102, under the head of "Canalizing the Hudson, Troy to Waterford," after mentioning the preparation of the memorial, it is stated:

Recently this memorial was presented at a hearing before the Committee on Rivers and Harbors.

In order that it may be generally known what strong arguments may be adduced in support of the State's claim for Federal aid and also how little, relatively, New York has received from the General Government, it seems fitting to repeat here some of the facts set forth in this memorial.

But first we may consider briefly the history of this project. In his annual message to the legislature of 1905 the governor called attention to the fact that New York's share of the millions appropriated for rivers and harbors was but trifling compared with the percentage which her commerce bears to the whole commerce of the United States, and he suggested that our representatives in Congress be requested to press the claims of the State for larger appropriations. About a year later this was followed by an appeal from the State engineer for the Government to undertake the canalization of the Hudson between Troy and Northumberland. Thus far these appeals have resulted only in the making of a survey and estimate of cost for improving that portion of the river from Troy to Waterford.

13. For a further understanding of the attitude of the officials of the State of New York, a copy of a letter dated July 14, 1910, addressed to the Hon. Frederick C. Stevens, superintendent of public works, by Hon. Edward R. O'Malley, attorney general, is given as inclosure "B."

14. From the files of this office dated September 22, 1909, are taken the following resolutions passed by official bodies of the State of New York:

Copy of resolution passed February 25, 1909, by the Senate and Assembly of the State of New York:

Whereas the great and growing demands of commerce along and upon the upper Hudson River require the widening and deepening of the channel of such river; and

Whereas such river, being a navigable stream, is under the exclusive jurisdiction of the Government of the United States: Therefore,

Resolved (if the senate concur), That the Representatives of this State in the Congress of the United States be, and they hereby are, requested to use every honorable effort to procure an appropriation for the immediate commencement of the work of excavating a channel in such river 400 feet wide and 22 feet deep extending from the city of Hudson to the village of Waterford.

Resolution adopted by the city of Albany in common council Monday, April 30, 1908:

Whereas representative citizens of Albany, through the officers and committees of the Albany Chamber of Commerce, have started a movement designed to influence the Congress of the United States to make an appropriation for the establishment of a 20 foot channel in the Hudson River between Waterford and Hudson, N. Y.; and

Whereas his honor the mayor of Albany has appointed Frederick W. Cameron, Esq., and Dexter Hunter, Esq., to represent the city of Albany and to act in this matter with representatives of cities and villages and business men's organizations between Waterford and Hudson; and

Whereas these representatives propose to appear before the Rivers and Harbors Committee at Washington to advocate the improvement of the Hudson River in this vicinity: Therefore be it

Resolved, That the common council hereby approves the action of his honor the mayor in appointing two citizens to represent the city of Albany, and records its indorsement of the general scheme for improving the Hudson River as outlined by the business interests of the city: And be it further

Resolved, That we most respectfully urge Representatives Draper and Southwick to use their influence with the Rivers and Harbors Committee at Washington to grant the request of our city's representatives for an appropriation in the rivers and harbors bill of 1909.

Adopted.

A true copy thereof and of the whole of the same.

FREDERICK U. BRESLER,
Clerk of Common Council.

Resolutions of a similar tenor were adopted by the board of trustees of the village of Green Island, the board of trustees of the village of Castleton, the common council of Hudson, N. Y., the town board of the town of Stuyvesant, N. Y., the common council of the city of Troy, the board of trustees of the village of Valatie, and the common council of the city of Watervliet.

Very respectfully, your obedient servant,

W. M. BLACK,
Colonel, Corps of Engineers.

[First indorsement.]

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, November 8, 1911.

Respectfully transmitted to the Judge Advocate General, United States Army, the information contained in these papers being furnished in response to oral request from his office.

W. H. BIXBY,
Chief of Engineers, United States Army.

[Inclosure A.]

ALBANY, N. Y., *April 2, 1906.*

Mr. R. H. TALCOTT,
United States Engineer's Office, Albany.

DEAR SIR: Your letter of March 31 is at hand and I will be pleased to send you the blue prints requested as soon as possible.

I placed the question before the canal board at their last meeting on March 29 as to whether the State would be willing to maintain the lock and dam at Troy and the river adjacent thereto in case the Government should decide to do this work. It was the unanimous opinion of the canal board that I be authorized to advise you that

the State would gladly take care of the maintenance of this portion of the Hudson River should the Government see fit to make the improvement.

Very truly, yours,

HENRY A. VAN ALSTYNE,
State Engineer and Surveyor.

[Inclosure B.]

JULY 14, 1910.

HON. FREDERICK C. STEVENS,
Superintendent of Public Works, Albany, N. Y.

DEAR SIR: I have the honor to acknowledge the receipt of your favor of the 30th ultimo, in which you ask for my opinion with reference to certain water leases at the Troy Dam. From your letter and from an examination of the leases and from discussions with your department and the members of the advisory board of consulting engineers the following facts appear:

On the 2d day of January, 1832, the State leased certain surplus waters at the east end of the Troy Dam to the Lansingburg Dry Dock & Hydraulic Co. pursuant to section 106, title 9, chapter 9, of the Revised Statutes, and on the 26th day of November, 1835, the surplus waters at the west end of the same dam were leased to one George Tibbitts pursuant to the same law.

The first of these leases was recorded in the Rensselaer County clerk's office, in volume 25 of deeds, at pages 280, 281, and the second in the Albany County clerk's office in book L L of deeds, at page 402. Both of these instruments provided for the payment of annual rentals and for terms of 999 years. These rents have been paid to date. I assume that both of these leases are now owned by the International Paper Co.

The instruments contain the following provisions:

* * * the use of the surplus water which may be taken at the east (west) end of the aforesaid dam, and not exceeding one-half of the quantity which may be taken at both ends of said dam, such surplus water to be taken and drawn from the said dam, at such place and in such manner, and be discharged at such place and in such manner as the acting canal commissioner or the canal commissioners shall from time to time direct, saving and reserving to the said parties of the first part the right wholly to resume the waters hereby conveyed and the privilege hereby granted, and to control and limit the use of said water and privileges whenever, in the opinion of the canal board or of the legislature, the necessary supply of water for use of any State canal, or the safety of such canal, or works connected therewith, shall render such resumption, control, or limitation necessary. And in case any such resumption shall be made, or control or limitation imposed, no compensation or damages shall be allowed for any improvements or erections made, or which may be made under or in consequence of this grant or lease. And also saving and reserving to the said parties of the first part the right, without making any compensation to the said parties of the second part or any other person claiming under them, wholly to abandon or destroy the work by the construction of which the said surplus water has been created, whenever in the opinion of the canal commissioners the occupation and use of the said work shall cease to be advantageous to the State.

At the present time the canal system of the State uses a portion of the Hudson River from Waterford to and through this dam for navigation purposes. The river and harbor bill, passed by the last Congress contains an item for the improvement of the Hudson River in the vicinity of Troy in such a manner as to result in a channel of at least 12 feet in depth and 200 feet in width to connect with the barge canal at Waterford. This action of the Federal Government

was taken at the request of the State of New York as expressed by its canal officials and citizens. The tentative plan of Col. Black, of the Corps of Engineers, United States Army, calls for the construction of a dam in the Hudson River at a point about 800 feet upstream from and for the abandonment of the present Troy Dam.

Under the above facts the question arises as to what are the rights and duties of the superintendent of public works and all other officials of the State charged with the construction of the barge canal with reference to the cancellation or termination of these water leases.

It is, of course, indisputable that no portion of the Erie or Champlain Canals can be abandoned so as to result in the destruction of a navigable communication with the Hudson River. If in the prosecution of the work directed by chapter 147 of the laws of 1903 and the acts amendatory thereof and supplemental thereto, the State should construct a new dam at the site above mentioned and should thereby as a necessary result of the improvement abandon the Troy Dam, it is my opinion that under the last sentence of the above quotation the superintendent of public works, in whom are vested the powers of the canal commissioners, with the approval of the canal board, would have the power to wholly abandon or destroy the Troy Dam without the payment of compensation to the present owners of the water leases, whenever the new dam should be in a condition to continue navigation past the point of the present Troy Dam; and if canal navigation in both canals could be maintained to the Hudson by means of the canal now entering the river at Albany and without the use of the Troy Dam, that dam might in like manner be abandoned and destroyed when to do so would be advantageous to the State. What the State through the proper officials can do performing the work itself, it is my opinion it can likewise do when the work is being performed for it by the Federal Government.

This abandonment and destruction of the Troy Dam should be accomplished after giving notice to the present owners of those water leases of the proposed action of the State, and of the time when by virtue of the completion of the new dam or by the diverting of all canal navigation through the Albany terminal the old dam ceases to become a necessary part of canal works.

Yours, very truly,

EDWARD R. O'MALLEY,
Attorney General.

CHAMBER OF COMMERCE,
Troy N. Y., ——— —.

Col. WILLIAM M. BLACK.

MY DEAR SIR: I inclose herewith a copy of preambles and resolutions adopted by the Legislature of the State of New York on or about March 10, 1910.

I call your attention particularly to the second resolution, urging our Members of Congress to act in unison "to carry out the recommendations made by the War Department with reference to the river improvement."

Before that date your report concerning the improvement of the Hudson River and the construction of the dam and lock had been

transmitted to the Chief of Engineers, and had been published in the local papers. That report was dated January 10, 1910, and on February 25, 1910, it was sent with other papers by the Secretary of War to the Speaker of the House of Representatives.

That report is set forth in House Document No. 719, and by the river and harbor act of June 25, 1910, the improvement of the Hudson River was directed to be carried out in accordance with the report submitted in that House document, with a proviso that the general plan should be subject to such modification as to the location of the dam and any matters of detail as may be recommended by the Chief of Engineers and approved by the Secretary of War.

These plans include the construction of the dam and lock by the National Government and at a point about 1,400 feet above the present site. The plans also included the building by the Government of the channel in the river below the dam and above the dam to Waterford, where the Erie and Champlain Canals enter the river. All these things were well known at the time these resolutions were adopted by the legislature.

I do not believe that the attention of the honorable the Secretary of War has ever been called to this action of the legislature, and I should be much pleased if you thought it proper to act on the suggestion now made that you transmit a copy of this letter and the preambles and resolutions to the honorable the Secretary of War and to the Chief of Engineers.

Very respectfully, yours,

WM. W. LOOMIS,
President Chamber of Commerce.

[First indorsement.]

UNITED STATES ENGINEER OFFICE,
New York, N. Y., January 16, 1912.

1. Respectfully forwarded to the Chief of Engineers, United States Army, as requested by the writer.

W. M. BLACK,
Colonel, Corps of Engineers.

Preambles and resolutions adopted by the Legislature of the State of New York on or about March 10, 1910.

Whereas the State of New York is committed to expending upward of \$100,000,000 for the enlargement of its canals so as to increase their usefulness as transportation agencies and as regulators of freight rates; and

Whereas in the opinion of the public officers who have charge of the work it is so far advanced that it will be completed in or prior to 1914; and

Whereas to secure the objects sought by this expenditure it is essential that the channel of the Hudson River shall be deepened and widened, so that the depth of the river shall be at least equal to that of the canals, and that continuous and commodious highways of commerce shall extend from the Great Lakes and from Lake Champlain to the metropolis; and

Whereas the cooperation of the Federal Government is necessary for this purpose and the timely inauguration of the work that should be done is of the greatest importance: Now, therefore, be it

Resolved (if the assembly concur), That the Congress of the United States is hereby respectfully requested to enact such legislation and make such appropriations as may be proper and necessary for the improvement of the Hudson River, and the securing therein of a channel which shall be of a depth equal to that of the canals, and a harbor sufficient in width to permit of the safe and convenient assembling and handling of vessels and barges passing from one into the other; and be it further

Resolved, That the Senators representing the State of New York in the Senate of the United States and the Members of the House of Representatives from the several districts of this State are hereby urged to give this matter their earnest attention and to act in unison in securing such legislation and appropriations at the present session of Congress as may be necessary to carry out the recommendations made by the War Department with reference to the river improvement; and be it further

Resolved (if the assembly concur), That the presiding officers of the legislature are hereby directed to cause these preambles and resolutions to be printed, properly certified, and transmitted to both Houses of Congress, and also to have copies thereof sent to each Senator and Representative from this State in the Congress of the United States.

JANUARY 19, 1912.

Hon. JOHN A. DIX,

Governor of New York, Albany, N. Y.

MY DEAR GOVERNOR: Referring to our previous correspondence in regard to the improvement of the Hudson River in the vicinity of Troy, I wish to state to you briefly the position of the Government, decided upon after mature consideration.

For 10 years the State of New York, acting through its executive and legislative branches, has been urging the Federal Government to undertake the improvement of the Hudson River between Troy and Waterford as a part of the New York State Barge Canal system. That portion of the Hudson River is admittedly a navigable stream and under Federal jurisdiction, and national appropriations for its improvement are justified because of the national and international importance of the navigation and commerce which will be benefited by such proposed improvement.

After several congressional appropriations for preliminary surveys, this effort on the part of the State to secure national action culminated in an item of the river and harbor act of June 25, 1910 (36 Stat., 635), making an appropriation of \$1,350,000 for improving the Hudson River in accordance with the engineering report submitted in House Document No. 719, Sixty-first Congress, second session. The act directly provided that the "expenditure of the amounts appropriated for said improvement shall be subject to the conditions set forth in said document."

The project thus authorized by Congress called for the construction of a new lock and dam in the vicinity of Troy about 1,400 feet north

of the present State lock and dam, the removal of the present lock and dam, and the continuance of the channel from deep water in the lower river through the present dam up to Waterford, it being stated in the report, "It is advisable for the General Government to undertake the improvement of the Hudson River from deep water up to Waterford, provided all existing water-power rights or privileges affected by the improvement are extinguished by the State of New York."

This engineer's report also provided, as one of the conditions for making the improvement, that the Federal Government should be empowered to lease such surplus water power as was to be created by the new Federal dam. This condition was imposed pursuant to the deliberate action of Congress as expressed the preceding year in the river and harbor act of March 3, 1909, which demanded that all such engineer's reports in future for any similar improvement should provide for the development and utilization of water power in order to "lessen the cost of such improvements and to compensate the Government for expenditures made in the interest of navigation." (35 Stat., 822.) This was a declaration of a permanent national policy which has been carried out by the Federal Government in many other similar cases. In other words, the abandonment of the old Troy dam, the resumption of the water power, the completion of a new lock and dam by the Federal Government, and the utilization by the Federal Government of the disposable water power created by the new dam in order to lessen the cost of the improvement, were all integral parts of the improvement authorized by Congress upon the urgent request of the State.

In compliance with the provisions of this act the New York State Canal Board on November 22, 1910, passed a resolution abandoning the old lock and dam as no longer advantageous to the State and resuming the surplus water. This resolution was forwarded to my predecessor, the then Secretary of War, by the superintendent of public works of New York, who further advised the Secretary that the water rights at the dam had been canceled. Upon the faith of this action by the State authorities my predecessor proceeded with the work and entered into contracts providing for the expenditures of large sums.

Thereafter, by resolution of April 28, 1911, the new State canal board attempted to rescind its predecessor's action abandoning the dam and canceling the existing water rights. By this resolution the State authorities requested the Federal Government to confine the improvement of the Hudson River to that portion of the river lying south of the dam. I also received a report from Col. Black, of the Engineer Corps, of a conference between him and yourself, held at Albany on May 9, in which you expressed a desire that "the work at and above the State dam should be deferred until Congress should have an opportunity to pass upon a proposal of the State of New York to construct a dam and lock with its own funds."

Upon receiving the resolution of the new canal board and this report of your own request the work of the Federal Government was suspended, and I requested an opinion of the Attorney General of the United States as to whether any part of the appropriation was available to carry out a portion alone of the project, so that at all events the work below the dam might be proceeded with, even if the

building of the dam was held in abeyance. An opportunity could thus be given to the State authorities to lay before Congress your plan of having the dam built by the State instead of the Federal Government. On being advised by the Attorney General in the affirmative, I directed the prompt prosecution of so much of the work as was not dependent upon the new lock and dam and the destruction of the existing structures. This work has ever since been diligently carried forward.

I find now, however, after the lapse of more than six months, that no step whatever has been taken by the State authorities to have the matter reconsidered by Congress, and no bill has been submitted to Congress to amend the existing legislation.

The commercial interests of the State of New York, no less than the vast national interests in the navigation of the Hudson River, demand the prosecution of this work without any further delay. The barge canal system, for which the people of New York are spending over a hundred million dollars, will, through the Erie Canal, connect the Atlantic seaboard with the Great Lakes and, through the Champlain Canal, with the St. Lawrence. These were intended to be national highways of commerce. To render them available, it is absolutely necessary to remove the old lock and dam and to construct a new one adequate in size for the new canal traffic. To delay longer the commencement of the construction of the dam will make it unavailable against the time of opening of the canal, and thus delay the utilization of the proposed canal system. The whole work is a unit, and all of its parts must be completed at about the same time if the intended benefits are to be realized. The Federal Government, so far as it shares in the responsibility, can not allow any delay which will paralyze, impair, or postpone a public improvement of such great importance to commerce and navigation.

I have in the meantime given careful study to the legal questions which have been raised in this matter, and I have come to the conclusion that the action of the former New York Canal Board in its resolution of November 22, 1910, adequately fulfilled all of the conditions laid down by Congress in the act of June 25, 1910. This was also the view expressed by the Attorney General of the United States in his opinion rendered to me above mentioned. That being so, it was, in my opinion, beyond the power of the State to revoke its action and to interfere with the improvement authorized by Congress in view of the paramount control of Congress in the Hudson River as a navigable water of the United States. I am also thoroughly satisfied as to the power of the United States to complete the improvement under the terms of the statute, including the right to reimburse itself in part for the expenditures of the improvement, by the lease or sale of any incidental water power created by the new dam. A consideration of the decisions of the Supreme Court of the United States clearly shows that the legislation is proper and constitutional. The doubt raised by the attorney general of New York must be attributed to a possible misconception as to the purpose of the act of Congress. The improvement was authorized solely in the interest of navigation and not to create water power. The Federal decisions, acted upon in a series of similar improvements by Congress, have thoroughly established that where water power is incidentally created by a public work owned and operated by the United States in the interest of

navigation such water power is subject to the exclusive regulation, control, and disposition of the United States. In the present case it appears as a matter of fact to be beyond dispute that the possible rental from any such surplus water power will inevitably be much less than adequate interest upon the Government's expenditure in making this improvement.

I have therefore come to the conclusion that the War Department must carry out the mandate of Congress and proceed with the construction of the work with which it is charged, including the construction of the new lock and dam.

Very respectfully,

HENRY L. STIMSON,
Secretary of War.

WAR DEPARTMENT,
Washington, January 24, 1912.

MY DEAR MR. ATTORNEY GENERAL: I inclose a carbon copy of a letter which I have just written to Gov. Dix, which I think correctly embodies the result of our conference yesterday.

Very truly, yours,

H. L. STIMSON,
Secretary of War.

Hon. THOMAS CARMODY,
Attorney General of New York,
The Capitol, Albany, N. Y.

ALBANY, *January 31, 1912.*

Hon. HENRY L. STIMSON,
Secretary of War, Washington, D. C.

DEAR MR. STIMSON: Yours of the 29th instant received. Your letter states your position with sufficient clearness, so that I have no misunderstanding as to what it is. You have also clearly stated the position of the State, as I understand it.

I still hope the matter may be determined without any further delay or complication, standing always, of course, upon the legal principles heretofore announced and which you fully understand.

Thanking you for the courtesy of your letter, and with highest personal regards, I am,

Very respectfully, yours,

THOMAS CARMODY,
Attorney General.

ALBANY, N. Y., *January 26, 1912.*

Hon. H. L. STIMSON,
Secretary of War, Washington, D. C.

MY DEAR SECRETARY: I am in receipt of your letter of the 24th instant, inclosing copy of your letter of the same date to Gov. Dix.

I note your statement in your letter to the governor that, in the conference with you at Washington, I stated that I saw no need of asking Congress to change the present appropriation act, but—

that the United States might go ahead with the construction of the improvement under the terms of that statute and that the question of the ownership of the water power thus secured could afterwards be determined by judicial decision, it being understood that the State did not in any way waive its claim to the ownership of such water power.

You will doubtless recall that I asked you if the Federal Government based its claim to the ownership of the water upon the action of the canal board of 1910 in undertaking to rescind existing contracts, and upon certain action heretofore taken by the State legislature, all of which you claimed exterminated the riparian rights of the State to this water power, and you answered in the affirmative and also stated that this gave you the right to construct the dam, and that it was the intention of the Federal Government to proceed to do so, regardless of the terms of the appropriation. I then stated, in that connection, that if this be your position, it made little difference whether the terms of the appropriation were changed or not, and my understanding is that you assented to this construction.

You will remember that I stated in the conversation to which you refer in your letter to Gov. Dix that the State had no disposition to prevent or delay improvements in the Hudson River; that we have been anxious from the beginning to have the work progressed, and have frequently sought interviews with the War Department for the purpose of amicably adjusting any misunderstanding in regard to the respective rights and duties of the Federal and State Governments. I stated further that we were ready to build the dam when the complications with the Federal Government would be out of the way, and that if the Federal Government undertakes to build the dam and to impound the waters and to control the power and to claim the revenue from it, it must justify its act under its constitutional powers. I informed you specifically that the State waived no rights, conceded none of its claims, but stood upon what the State believes to be its rights, and that if previous legislatures or canal boards have undertaken to waive any of these rights or to yield them to the Federal Government, the present administration desired to repudiate such a policy and to allow the Federal Government to proceed no further upon the implied consent of the State.

I may further say that the present administration has at all times consistently opposed the right of the Federal Government to appropriate the water power of the State of New York. The State administration believes such a purpose is manifested in its treatment of the Troy dam question. This is not an isolated case of the policy of the Federal Government. It has extended this policy to the State's riparian rights in the Niagara River, and has attempted to regulate, by congressional action, the manner in which the State shall enjoy the water power which belongs to the State in that river, and has undertaken to give permits to private owners, approved by the Secretary of War, for the enjoyment of the power from which the State should receive valuable revenues.

If this policy is continued, it will be against the protest of the State administration, and if it is carried out the Federal Government must undertake to justify it under the law.

Thanking you for the courtesy of your letter and with assurances of my high regards, I am,

Very truly, yours,

THOMAS CARMODY,
Attorney General.

JANUARY 24, 1912.

Hon. JOHN A. DIX,

Governor of New York, Albany, N. Y.

MY DEAR GOV. DIX: Attorney General Carmody and State Engineer Bensel appeared yesterday and we had a conference over the matter which you and I discussed on Saturday. Mr. Carmody stated that the State disclaimed any power to prevent the United States from going ahead and making the improvement in question in the Hudson River, including the building of the dam and locks, but that the State of New York claimed the right to any surplus water power which might be created by such improvement. He stated that he therefore saw no need of asking Congress to change the present appropriation act, but that the United States might go ahead with the construction of the improvement under the terms of that statute, and that the question of the ownership of the water power thus created could afterwards be determined by judicial decision, it being understood that the State did not in any way waive its claim of ownership in such water power.

I see no objection to this plan, and so told Mr. Carmody. I am willing to say further that, while in my opinion the United States will be the owner of all of the water power which may be created by this improvement to navigation erected by the United States, nevertheless, in case the amount of the water power thus produced shall eventually prove to be more than sufficient to pay reasonable interest and sinking fund charges upon the expenditures made by the United States in this improvement, I see no objection to the United States collecting and turning over the proceeds of any surplus beyond such amount to the State of New York for the benefit of the people of the State. Should you desire to make application to Congress for this purpose, I, if in office, will be glad to make such statement in behalf of your application. But, as I have stated in my letter to you of January 19, I regard this question as academic, because I am informed by the engineers that the amount of water power which will be created by the improvement will not nearly be sufficient to pay such interest and sinking fund charges upon the amount necessary to make the improvement.

In accordance with the understanding arrived at yesterday, I am directing the engineers to proceed at once with the work on the entire improvement.

Very respectfully,

H. L. STIMSON,
Secretary of War.

JANUARY 29, 1912.

MY DEAR MR. ATTORNEY GENERAL: I have received your letter of January 26. I do not think there can be any future misunderstanding as to my legal position in view of my letter of January 19 to the governor nor of your legal position in view of your letter of the 26th to me. I do not think you quite understood me, however, in our personal conference if you understood me to state that it was the intention of the Federal Government to proceed to construct the dam regardless of the terms of the appropriation. My position, on the contrary, was, as stated in my letter to the governor, that—

(1) That the Federal Government had the absolute right to make this improvement for the benefit of navigation in the Hudson River, including the right, if it desired, to tear down the present dam and build a new one regardless of the State.

(2) That it had undertaken, however, to make the improvement on condition that the State extinguish all existing water-power rights or privileges affected by the improvement.

(3) That the State's action of November 22, 1910, had adequately fulfilled this condition.

(4) That this being the case there was nothing for me to do but to proceed under the mandate of the appropriation act and make the improvement, including the building of the dam, according to the terms of that act.

(5) That one of the conditions of this act was that any surplus water power produced by the work of the Federal Government should be applied to the reduction of the cost of that improvement, and that as to the constitutional power of the Federal Government to so apply this product of its work I had no doubt.

I think all of the foregoing points are fully covered by my letter to the governor of January 19. and, on the other hand, at my conference with you, no doubt was left in my mind that you, on behalf of the State government, waived none of the rights or claims of the State as understood by you.

Believe me, with sincere regards, to be

Very respectfully, yours,

HENRY L. STIMSON.

Hon. THOMAS F. CARMODY,

*Attorney General of the State of New York,
Albany, N. Y.*

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, February 12, 1912.

Memorandum for the Secretary of War in re the construction of the lock and dam at Troy, N. Y.:

1. To meet certain conditions imposed by Congress in the river and harbor act of June 25, 1910, in adopting the project for improving Hudson River, the New York State Canal Board, under date of November 22, 1910, passed a resolution formally abandoning the existing lock and dam at Troy and authorizing their destruction, this action purporting to carry with it the legal extinguishment of all existing water-power rights and privileges affected by the proposed improvement. Subsequently the State canal board, having been reorganized, at a meeting held April 26, 1911, passed a resolution designed to rescind the aforesaid action of the former board, and this resolution was brought to the attention of the War Department by the governor of the State, by letter of April 28, 1911.

2. The later resolution indicated an intention on the part of the State to retain possession and control of the existing State structures, and, in effect, requested that the War Department modify the Federal project for the improvement of the Hudson River by eliminating that portion which contemplated the construction by the United States of a new lock and dam, in order that this portion of the work might be done by the State.

3. On account of the changed attitude of the State, evidenced by this resolution, and with a view to affording ample opportunity for the most thorough consideration of the questions springing therefrom, the Acting Chief of Engineers, by indorsement of July 20, 1911, presented the case to the Secretary of War with recommendation that the following course of action be adopted:

1. That work on that portion of the project which involves the construction of a new lock and dam to replace the existing State structures, including the extension

of the navigable channel of the river through said dam to connect with the State canal, be postponed until Congress shall have had opportunity to again consider the case and to enact such further legislation as may be deemed advisable and desirable.

2. That so much of the work of rock excavation and dredging to secure the project depth and width of channel from deep water in the lower river up to Waterford, as is not dependent upon the construction of the new lock and dam, or the destruction of the existing structures, be continued and carried forward as the interests of the United States may require.

3. That the authorities of the State of New York be informed that, under existing law, it will not be permissible for them to enter upon the construction of the proposed new lock and dam at Troy until the sanction of Congress shall have been obtained; that it is the intention of the War Department to submit to Congress, at the regular session in December next, a full report upon the questions that have arisen regarding this part of the projected work, and to defer active operations thereon until that body shall have considered the facts and indicated its further wishes in the premises; and that, while the department will enter no opposition to appropriate legislation by Congress authorizing the State authorities to execute this part of the work at the expense of the State, the action necessary to secure such authorization should be inaugurated by the State through its representatives.

4. A partial decision by the Secretary of War on the foregoing recommendation was announced in a memorandum addressed to the Chief of Engineers under date of September 15, 1911, as follows:

I approve of so much of the report of the Acting Chief of Engineers dated July 20, 1911, as recommends: "That so much of the work of rock excavation and dredging to secure the project depth and width of channel from deep water in the lower river up to Waterford as is not dependent upon the construction of the new lock and dam or the destruction of the existing structures be continued and carried forward as the interests of the United States may require," and I direct that such work be proceeded with at once.

The work on that portion of the project which involves the construction of a new lock and dam to replace the existing State structures should be postponed until I shall have further time to determine whether to adopt the recommendation of the Acting Chief of Engineers and submit the matter to Congress, or proceed with the work as originally authorized, on the assumption that the action of the State canal board of April 28 [26], 1911, was void and ineffective.

5. The questions for determination have been held under advisement by the Secretary of War since the issuance of the foregoing memorandum, and it now appears that he has reached a conclusion thereon which he has embodied in a letter addressed, under date of the 19th ultimo, to the governor of New York, and which is substantially as follows:

(a) That, by virtue of its dominant control over the Hudson River as a highway for national commerce, the Federal Government is vested with the power to improve the navigation of that river in accordance with the terms and conditions of the project adopted by Congress in the river and harbor act of June 25, 1910, which provides, *inter alia*, for the construction of a new lock and dam at Troy, to replace the existing State structures; and that this includes the right to reimburse itself for moneys expended on the improvement, by the lease or sale of any water power incidentally created by the new structures.

(b) That the action of the New York Canal Board set forth in the resolution adopted November 22, 1910, adequately met the requirements of Congress with reference to the abandonment and destruction of the existing State structures, and the extinguishment of all existing water-power rights and privileges affected by the proposed improvement; that it was beyond the power of the State to subsequently revoke this action; and that the resolution of the State canal board adopted April 26, 1911, designed to accomplish such revocation, is, therefore, void and ineffective.

(c) That the War Department must carry out the express mandate of Congress and proceed with the work with which it is charged, including the construction of the new lock and dam at Troy.

6. Up to the present the work of improvement has been carried forward, and all the operations of this department have been conducted, in strict conformity to the instructions given in the memorandum of September 15, 1911; that is, the work has been confined to improving the channel below the Troy dam.

7. I now have the honor to recommend that I be authorized to communicate the foregoing conclusion of the Secretary of War to the district engineer officer, and to instruct him to proceed with the entire work in accordance with paragraph (c) thereof.

W. H. BIXBY,
Chief of Engineers, United States Army.

Such authority is hereby granted.

H. L. STIMSON,
Secretary of War.

[Second indorsement.]

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, February 17, 1912.

Respectfully referred to Col. W. M. Black, Corps of Engineers, for his information and guidance.

By command of the Chief of Engineers:

E. N. JOHNSTON,
Captain, Corps of Engineers.

[Third indorsement.]

UNITED STATES ENGINEER OFFICE,
New York, N. Y., February 23, 1912.

1. Respectfully returned to the Chief of Engineers, United States Army, the contents having been noted.

2. Until action has been taken by higher authority on the reports previously submitted relating to the location of the dam and of the channels in its vicinity, this office is unable to proceed.

W. M. BLACK,
Colonel, Corps of Engineers, United States Army.

HUDSON RIVER, NEW YORK.

LETTER

FROM

THE SECRETARY OF WAR,

TRANSMITTING,

WITH A LETTER FROM THE CHIEF OF ENGINEERS, REPORTS OF
EXAMINATIONS AND SURVEY OF HUDSON RIVER, NEW YORK,
AT VARIOUS LOCALITIES.

FEBRUARY 25, 1910.—Referred to the Committee on Rivers and Harbors and ordered
to be printed, with illustrations.

WAR DEPARTMENT,
Washington, February 25, 1910.

SIR: I have the honor to transmit herewith a letter from the Chief of Engineers, U. S. Army, dated 24th instant, together with copies of reports of Col. W. M. Black, Corps of Engineers, on preliminary examinations of the Hudson River, New York, at various localities; also copy of a preliminary report of that officer on survey of the river at those localities, made by him in compliance with the provisions of the river and harbor act of March 3, 1909.

Very respectfully,

J. M. DICKINSON,
Secretary of War.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, February 24, 1910.

SIR: I have the honor to submit herewith, for transmission to Congress, reports with maps, by Col. W. M. Black, Corps of Engineers, on preliminary examinations of Hudson River, New York, called for by items in the river and harbor act approved March 3, 1909, as follows:

[May 5, 1909] With a view to providing a channel not less than 200 feet wide and 12 feet deep at all stages from deep water in the lower river to Waterford, including a lock and dam at Troy suitable in size for all probable purposes of navigation and commerce to and from the barge canal.

[July 31, 1909.] At Troy, with a view to widening the channel below Adams street.

[August 2, 1909.] At Albany, with a view to providing additional area of navigable depth at the mouth of Island Creek and vicinity, for the benefit of general commerce and the making up of barge tows.

[August 2, 1909.] At Coeymans, with a view to securing a suitable width and depth in the channel along the village front behind the government dike.

Also a preliminary report dated January 10, 1910, by Colonel Black on survey of the river at these localities.

The existing project for improvement of Hudson River provides for a channel 12 feet deep and 150 feet wide from the State dam to the foot of Jacob street, Troy; thence gradually increasing in width to 400 feet at the foot of Broadway, Troy; thence 400 feet wide to Coxsackie.

The district officer presents in his preliminary report on survey a plan for further improvement, the object being to afford suitable navigation facilities for the commerce of the Hudson River and that which is anticipated from the completion of the New York State canals. If this part of the river over which the commerce of the canal must pass is to be improved to meet the development of the state waterways and finished in time for the opening of the Champlain Canal, work must be begun as soon as practicable, as three working seasons will be required to complete a new lock and dam with channels of approach. The district officer has therefore submitted this report in advance of complete detailed studies and estimates, but he states that while the estimates are approximate he believes they are sufficient to cover the work proposed, and that the further study which will be necessary before the work is undertaken will not seriously affect the general plans or estimates.

The plan submitted contemplates the construction of a new lock and dam in the vicinity of Troy about 1,400 feet north of the existing State lock and dam, which will be removed, and the excavation of a channel from deep water in the lower river to Waterford 12 feet deep at all stages. Below Troy the general width of the channel is to be 400 feet, except at Albany, where it widens into a basin. In the vicinity of Troy the width above the dam is to be 200 feet, widening into a basin just below the dam. For a short distance below this basin there will be a double channel, one on either side of Adams Island, with widths, respectively, of 150 and 200 feet. Between the Delaware and the Hudson and Congress street bridges the width is to be 500 feet, below which it narrows to the proposed general width of 400 feet.

This work will extend nearly as far south as Hudson, and includes dredging, rock excavation, construction of a lock, dam, and mooring piers, and removal of the old lock and dam, all at an estimated cost of \$5,186,064. The district officer considers the improvement worthy of being undertaken by the United States, and states that if the project is approved and work authorized provision should be made for executing it under the continuing-contract system, the amount required for the lock and dam to be provided by a cash appropriation of \$300,000, and the balance to be made available within two years in order to insure completion within three working seasons. An initial appropriation of \$1,000,000 is required for the work below the dam.

These reports have been considered by the Board of Engineers for Rivers and Harbors, and in its opinion it is advisable for the

General Government to undertake the improvement of the Hudson River from deep water up to Waterford, provided all existing water power rights or privileges affected by the improvement are extinguished by the State of New York, it being understood, however, that both plans and estimates are general in character and require further careful study, particularly with reference to the low-water-plane and its bearing upon the elevation of the lower sill of the lock. The Board further states that the cost of maintenance of this improvement will probably not be excessive.

If it be the policy of Congress to make the connection of the navigable channel of the Hudson River with the State canal by extending the former channel through and above the State dam at Troy, and by the construction of a new lock and dam, I agree with the district officer, who is also division engineer, and with the Board of Engineers for Rivers and Harbors that Hudson River is worthy of improvement in this connection at the cost specified.

In the opinion of the district officer, and the Board, the harbor at Coeymans is not worthy of improvement by the United States, and I concur in this opinion.

The district officer states that it is probable that there will be surplus water sufficient to develop at least about 1,400 horsepower at the new dam, a small portion of which can be used for operating and lighting the lock, and the remainder can be sold. He recommends that if the improvement be adopted the Secretary of War be authorized to grant leases or licenses; (a) for the use of the surplus water for water power created by the dam at such a rate and on such conditions and for such periods of time as may seem to be just, equitable, and expedient, the said leases or licenses to be limited to the use of the surplus water not required for navigation and to a period not exceeding twenty years; (b) for the occupation of such land belonging to the United States on the Hudson River as may be required for power flumes, or other industrial purposes not inconsistent with the requirements of navigation; (c) and for the construction of such work or works appurtenant to the dam as may be necessary for the development and use of said water power.

The district officer has been informed by the canal board that it is ready to abandon the present lock and dam as soon as new structures are constructed by the United States, and that the project submitted meets with the approval of the Advisory Board of Canal Engineers.

The matter of cooperation by the local interests in meeting the expense of the proposed improvement has been given consideration by the district officer and the amounts deemed equitable to be required are for Troy and Albany, \$420,559 and \$105,000, respectively, to cover the cost of additional harbor facilities provided for at these localities in the above estimate.

Very respectfully,

W. L. MARSHALL,
Chief of Engineers, U. S. Army.

The SECRETARY OF WAR.

PRELIMINARY EXAMINATION OF HUDSON RIVER, NEW YORK, IN THE LOWER RIVER TO WATERFORD.

UNITED STATES ENGINEER OFFICE,
New York City, May 5, 1909.

SIR: I have the honor to submit the following report upon the preliminary examination of the Hudson River with a view to providing a channel not less than 200 feet wide and 12 feet deep at all stages from deep water in the lower river to Waterford, including a lock and dam at Troy suitable in size for all probable purposes of navigation and commerce to and from the barge canal, as required under the provisions of section 13 of act of Congress approved March 3, 1909, "to provide for the repair, maintenance, and preservation of public works on rivers and harbors, and for other purposes."

The original project for the improvement of Hudson River, adopted in 1834, modified in 1852, and again in 1866, had for its object the securing of a navigable channel of sufficient width and 9 feet depth between Troy and Albany, and 11 feet between Albany and New Baltimore. In carrying out this work \$1,667,938 was expended.

The existing project, approved July 13, 1892, for which a revised estimate was submitted to Congress February, 1898, and adopted March 3, 1899, provides for a 12-foot channel, 150 feet wide from the State dam to the foot of Jacob street, Troy; thence gradually increasing in width to 400 feet at the foot of Broadway, Troy; thence 400 feet wide to Coxsackie at an estimated cost of \$4,343,863. The amount expended under this project to the close of the fiscal year ending June 30, 1908, was \$3,560,252.58, of which \$279,186.90 was applied to maintenance of improvement.

The result of the above expenditure was to provide a channel 11 feet deep with a width of 200 feet except at the bridges at Albany, and generally 12 feet deep for a minimum width of 50 feet from Coxsackie to the foot of Broadway, Troy; of 10 feet for a minimum width of 100 feet except at the drawspan of the Delaware and Hudson Company's bridge at Troy, to the foot of Rensselaer street, Troy; thence 8½ feet to the sloop lock.

The portion of the river now under improvement is a stretch beginning at Coxsackie and extending to the State dam at Troy. In its natural condition the navigable channel was narrow and crooked, with a depth of 12 feet and over, below Coxsackie; from Coxsackie to New Baltimore of 11 feet; from New Baltimore to Albany of 7½ feet, and from Albany to State dam of 4 feet.

It will be noted that the existing project provides for a depth of 12 feet at mean low water. At certain stages of the river, the available depth of the improved channel is about 2 feet less. The navigation of the river above the State dam is confined almost entirely to the commerce passing through the Champlain Canal, which, in 1904, amounted to 523,244 tons. To provide for this commerce there is a lock and dam known as the "Sloop lock," 130 feet long, 28 feet wide, having a lift of 10 feet, and depth of water over lower miter sill of somewhat less than 5 feet. Between the State dam and Waterford, a distance of 2.6 miles, the navigation is through the pool of the State dam, with an available depth of about 10 feet.

Between Troy and New York, the depth of the present project is not sufficient to accommodate the existing commerce properly.

Work under the project is not completed, and even where completed shoals are forming from time to time, especially during the winter season when navigation is closed, and delays to commerce by the grounding of craft occur. The large passenger boats at certain stages of the river have their keels dangerously near the bottom, and on one or two occasions within the past year obstructions have been struck when good fortune alone prevented a disaster and loss of human life.

The State is now spending a very large sum of money in the construction of the barge canal, which will afford a navigable depth of 12 feet. One terminus of this canal is now located in the Hudson River at Waterford. The tonnage which will pass through the new canal is not known, but will probably exceed that of the Erie Canal in its best day, or about 3,600,000 tons annually, with an estimated value of \$108,000,000.

It is evident that to utilize this canal it will be necessary to deepen the channel of the upper river as far as Waterford, so as to afford a minimum navigable depth of 12 feet at all stages. This will require the formation of a channel about 14½ feet deep at mean low water, or a deepening of 2½ feet below that given under the existing project. This deepening will have to be provided by river regulation, dredging and rock removal, the raising of the State dam, and the construction of a new lock. It is possible that a portion of this work should be done by the State.

To make the project for this new work will require additional surveys and a number of rock borings, together with further investigations of the regimen of the river. The estimated cost of this work, together with that of the preparation of the project, is \$10,000.

The commerce of the year 1907 was as follows:

Class.	Tons.	Value.
General merchandise.....	435,640	\$41,544,986
Coal and other fuel.....	491,289	2,240,801
Building and road materials.....	721,770	6,055,438
Manufactures.....	87,419	1,606,543
Minerals and products.....	28,061	137,482
Farm products.....	361,039	13,870,524
Ice.....	755,950	1,387,957
Total.....	2,881,168	66,853,731

Number of passengers carried, 1,266,008.

In my opinion, the river is worthy of improvement by the General Government.

Very respectfully,

W. M. BLACK,
Colonel, Corps of Engineers.

The CHIEF OF ENGINEERS, U. S. ARMY.
(Through the Division Engineer.)

[Second indorsement.]

NORTHEAST DIVISION, ENGINEER OFFICE,
Washington, D. C., May 13, 1909.

Respectfully forwarded to the Chief of Engineers, U. S. Army.

In my opinion the Hudson River is worthy of improvement by the General Government to the extent indicated in the act of March 3, 1909. Without such improvement the New York State barge

canal may not, when completed, be used to its full capacity. In this a depth of 12 feet in trunk and over miter sills is contemplated; a like depth at all, including extraordinary low stages should be available in the Hudson River. The width of navigable channel in the river should, if possible, be such as will not only accommodate both canal and other river traffic but also allow the latter to be carried at moderate speeds without danger to shore structures and craft at piers and at anchor.

It is recommended that a survey and preparation of estimate of cost be authorized. The survey will necessarily extend laterally beyond the limits of the proposed channel, since the disposition to be made of dredged material will require much study. The survey made by the Board of Engineers, which reported October 1, 1891, on the cost of a 12-foot channel at mean low water between Coxsackie and the State dam at Troy, and the survey of the Hudson River, with a view to extending the existing project to Waterford, N. Y., printed in H. Doc. No. 539, 59th Cong., 2d sess., will not suffice for present purposes.

JOHN G. D. KNIGHT,
Colonel, Corps of Engineers,
Division Engineer.

[Fourth Indorsement.]

BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
Washington, D. C., May 25, 1909.

Respectfully returned to the Chief of Engineers, U. S. Army.

The existing project for the Hudson River provides for a 12-foot channel 150 feet wide from the State dam at Troy to the foot of Jacob street, Troy; thence gradually increasing in width to 400 feet at the foot of Broadway, Troy; thence 400 feet wide to Coxsackie. The 12-foot depth is below mean low water, which is at times as much as 2 feet above extreme low water.

The present investigation contemplates a channel not less than 200 feet wide and 12 feet deep at all stages from deep water in the lower river to Waterford, including a lock and dam at Troy suitable in size for all probable purposes of navigation and commerce to and from the barge canal. Waterford is about 2.6 miles above the State dam at Troy. The present inquiry, therefore, has in view the widening of the existing project near its upper end, increasing its depth throughout about $2\frac{1}{2}$ feet, and extending it to Waterford, the principal object apparently being to provide for the prospective commerce of the State barge canal as well as that of the Hudson River.

As stated within, one of the terminals of the barge canal is at Waterford, and it is essential in the interests of general navigation that a suitable and adequate connection between the canal and river be provided. Neither waterway would be complete without it.

Both the district officer and the division engineer believe the improvement is desirable, and a survey estimated to cost \$10,000 is recommended.

In the opinion of the Board an improvement of the nature of that contemplated by the act should be provided, and it therefore concurs in recommending that a survey be authorized.

For the Board:

D. W. LOCKWOOD,
Colonel, Corps of Engineers,
Senior Member of the Board.

[Fifth indorsement.]

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, June 1, 1909.

Respectfully submitted to the Secretary of War.

This is a report on preliminary examination of Hudson River, New York, up to Waterford, authorized by the river and harbor act of March 3, 1909.

Inviting attention to the report of the Board of Engineers for Rivers and Harbors in the preceding indorsement, I recommend that a survey of the locality, as proposed, be authorized.

W. L. MARSHALL,
Chief of Engineers, U. S. Army.

[Sixth indorsement.]

WAR DEPARTMENT, *June 1, 1909.*

Approved as recommended by the Chief of Engineers.

ROBERT SHAW OLIVER,
Assistant Secretary of War.

PRELIMINARY EXAMINATION OF HUDSON RIVER AT TROY,
NEW YORK.

UNITED STATES ENGINEER OFFICE,
New York City, July 31, 1909.

SIR: I have the honor to submit the following report upon a preliminary examination of the Hudson River at Troy, with a view to widening the channel below Adams street, in accordance with the provisions of section 13 of the river and harbor act approved March 3, 1909.

The city of Troy lies on the east bank of the Hudson at the head of tide-water navigation at the State dam, with its southern limits 3 miles down stream. Pier and bulkhead lines have been established on both sides of the river below the dam within its boundaries. On the west bank of the river opposite Troy are the towns of Green Island and Watervliet.

Beginning at the State dam and going south, the improved channel of the river lies close to the Troy bank for a distance of about $1\frac{1}{2}$ miles to Ferry street, from which point it crosses the river diagonally and does not reach the east bank until at a point about $2\frac{1}{4}$ miles below the State dam. After the channel leaves the east shore line, the area of the river bed between the improved channel and the shore varies from nothing to about 250 feet in width and is generally of hard material. The projected channel way is 400 feet wide from the south end of the city to a point opposite Broadway, about $1\frac{1}{8}$ miles below the State dam, where it begins to narrow, and from Jacob street, about three-fourths of a mile below the dam, to the State dam it is 150 feet wide.

At the State dam the width of the entire river is 1,200 feet; at the Delaware and Hudson bridge, eight-tenths of a mile below the dam, the width of the river is 1,450 feet, narrowing from there to State street, about $1\frac{1}{4}$ miles below the dam, where it is 700 feet; it then narrows to Adams street, where the width is 600 feet, gradually broadening to 825 feet opposite Monroe street, $2\frac{1}{8}$ miles below the

dam, and narrowing again to 650 feet just north of the southern city limits.

Below the Delaware and Hudson bridge the improved channel has a mean low-water depth of 12 feet and over, though this depth for the last mile of the city extends for a channel width of only 230 feet, the projected improvement not having been completed in this reach. The conditions are shown on the accompanying map.^a

It will be noted that north of the Delaware and Hudson Company's bridge the waterway of navigable depth is so narrow that a large boat could not turn in it, and that if vessels were moored to the wharves it would be difficult for a tow to pass them; and that from Ferry street southward vessels of any draft can not reach the wharves except at high water, and if moored to the wharves there they would be left aground on an irregular hard bottom during the low stages. In other words, the improvement of the river in the vicinity of Troy has been mainly with a view to affording facilities for through traffic, and the condition of the river is such that Troy has practically no harbor.

Troy is essentially a manufacturing city, with a population of at least 80,000 people. The assessed valuation of the property is upward of \$56,000,000. The towns of Green Island and Watervliet, opposite Troy, have a combined population of over 19,000, and carefully compiled statistics show that the commerce of Troy by water during 1908 amounted to 521,000 tons, with an estimated value of \$24,100,000. The total number of people carried on the ferries and steamboats of Troy during the year 1908 was reported as 2,392,000. The railway tonnage in and out of Troy in 1908, from the best figures obtainable, was 768,000 tons, valued at about \$64,000,000. Troy is entered by the New York Central and Hudson River Railroad, the Boston and Maine Railroad, and the Delaware and Hudson Railroad. The population of the counties of the New England States bordering on these roads whose natural and shortest line of water transportation is through Troy is 592,000. The above figures are only a few tending to show the importance of the city, the amount of commerce, and the number of persons to be benefited by an increase in the commercial facilities of Troy. A fuller and better statement of all is found in the letter of Mr. E. W. Douglas, president of the Chamber of Commerce of Troy, appended hereto.

Troy's commerce by water has actually declined in past years. The facilities for transportation by railroads have been increased until it is no longer economical to bring much of the freight by water under the disadvantages which hamper the river traffic due to a lack of harbor facilities. The people of Troy realize this, and are desirous of obtaining the full benefit which can be derived from the location of Troy at the head of tide-water navigation on the Hudson for which further improvement is contemplated, Congress having already authorized the formation of a project with a view to securing a channel of ample width with a minimum depth of 12 feet at the lowest stages of the river, and which river in a short time will be connected with the Great Lakes by the New York barge canal, and with the country to the north by the improved Champlain Canal.

With a considerable expenditure of time and money the Chamber of Commerce of Troy has prepared the appended report, to which

^a Not printed.

attention is invited, and which shows fully the importance of the city, the existing commerce, and the advantages which can easily be expected to follow the improvement of the river channel and the formation of a suitable harbor at the city. The city of Troy is prepared to cooperate with the United States in this matter, and attention is respectfully invited to the certified copy of a resolution passed by the common council of the city of Troy on the 1st of July, 1909, in which it was resolved that if the General Government shall take measures for the widening, deepening, and improving of the existing channel up to the harbor line so that vessels may be readily landed at the docks, the city of Troy will undertake to secure and maintain public docks and secure sufficient warehouses for the storage of freight, and prohibit the obstruction of the channel by refuse from the city, and to remove from the improved channel any detritus and refuse which may pass into the river within its boundaries.

In view of the foregoing, I have the honor to state that, in my opinion, the Hudson River at Troy is worthy of improvement, and I have the honor to recommend that the necessary work of forming a channel project be authorized. The estimated expense for the rock boring, surveys, etc., is \$1,500.

Very respectfully,

W. M. BLACK,
Colonel, Corps of Engineers.

The CHIEF OF ENGINEERS, U. S. ARMY
(Through the Division Engineer.)

[First indorsement.]

NORTHEAST DIVISION, ENGINEER OFFICE,
Washington, D. C., August 4, 1909.

Respectfully forwarded to the Chief of Engineers, U. S. Army.

The existing project for improving the Hudson River contemplates a 12-foot channel of width increasing from that at the State dam at Troy to that at Coxsackie, 28 miles below.

The river and harbor act of March 3, 1909, provides for an examination of that river, with a view to providing a deeper and in places a wider channel, and for extending this channel both downstream and upstream 2.6 miles to Waterford, the terminus of the New York barge canal.

Lying between the ends of the channel under improvement are situated Coeymans, Albany, and Troy, and at each of these places special examinations are also ordered by the act of March 3, 1909. These examinations involve the consideration of the advisability of specially widening the normal channel in front of these three places, and the same question may arise at one or more other places.

I consider these special examinations as properly but parts of the examination of the Hudson River, provided for as above stated, and deeming the further improvement of the river to be worthy of being undertaken by the General Government, recommend that surveys for the special examinations provided for, of which that herein reported upon is one, be authorized and the reports thereon be incorporated in one comprehensive report upon the proposed further improvement of the Hudson River.

JOHN G. D. KNIGHT,
Colonel, Corps of Engineers,
Division Engineer.

[Third indorsement.]

BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
Washington, D. C., August 9, 1909.

Respectfully returned to the Chief of Engineers, U. S. Army, inviting attention to the Board's report of this date on report of preliminary examination of Hudson River at Coeymans.^a

For the Board:

D. W. LOCKWOOD,
*Colonel, Corps of Engineers,
 Senior Member of the Board.*

[Fourth indorsement.]

WAR DEPARTMENT,
 OFFICE OF THE CHIEF OF ENGINEERS,
Washington, August 17, 1909.

Respectfully submitted to the Secretary of War.

This is a report on preliminary examination of Hudson River at Troy, N. Y., authorized by the river and harbor act of March 3, 1909.

Inviting attention to the report of the Board of Engineers for Rivers and Harbors in indorsement dated the 9th instant on a separate paper, I recommend that a survey of the locality, as proposed, be authorized.

FREDERIC V. ABBOT,
Acting Chief of Engineers.

[Fifth indorsement.]

WAR DEPARTMENT, *August 20, 1909.*

Approved.

JOHN C. SCOFIELD,
*Assistant and Chief Clerk for the
 Secretary of War in his absence.*

PRELIMINARY EXAMINATION OF HUDSON RIVER AT COEYMANS, NEW YORK.

UNITED STATES ENGINEER OFFICE,
New York City, August 2, 1909.

SIR: I have the honor to submit the following report upon a preliminary examination of the Hudson River at Coeymans with a view to securing a suitable width and depth in the channel along the village front behind the Government dike, in accordance with the provisions of section 13 of the river and harbor act approved March 3, 1909.

The village of Coeymans is situated in a bight on the east bank of the Hudson River about 13 miles south of Albany. For the purpose of improving the channel across the bar known as "Coeymans Cross-over" a dike about 2,650 feet long was built in front of the village wharves across the mouth of the bight. The distance from the shore to the dike at its ends is about 300 feet and at its middle point about 500 feet. As a result of this improvement, the area between the dike and shore has shoaled so that vessels now have difficulty in reaching

^a See page 12.

the village wharves, and the general improvement of the river has thus been injurious to the local commerce of Coeymans. This commerce has fallen off greatly in recent years, and it has not been possible to obtain any statistics as to its amount at present.

It is believed to be important that the villages lying on the banks of the Hudson River should be given proper facilities for river traffic and that therefore certain improvements will be needed at Coeymans. Inasmuch, however, as works there must be considered carefully in connection with the general project of river improvement and maintained under the general scheme for the river, and since they are so intimately related thereto, it is my opinion that they should be prepared as a portion of the general project of river improvement and maintained under the general scheme for the river, and that a separate project and appropriation should not be made.

I therefore have the honor to report that I do not deem this work worthy as a separate project, but I would recommend that it be directed that it be studied as a part of the project for the general improvement of the river and incorporated therein. The estimated cost of the necessary map is \$20.

Very respectfully,

W. M. BLACK,
Colonel, Corps of Engineers.

The CHIEF OF ENGINEERS, U. S. ARMY.
(Through the Division Engineer.)

[First indorsement.]

NORTHEAST DIVISION, ENGINEER OFFICE,
Washington, D. C., August 4, 1909.

Respectfully forwarded to the Chief of Engineers, U. S. Army.

The existing project for improving the Hudson River contemplates a 12-foot channel of width increasing from that at the State dam at Troy to that at Coxsackie, 28 miles below.

The river and harbor act of March 3, 1909, provides for an examination of that river with a view to providing a deeper and in places a wider channel and for extending this channel both downstream and upstream 2.6 miles to Waterford, the terminus of the New York barge canal.

Lying between the ends of the channel under improvement are situated Coeymans, Albany, and Troy; and at each of these places special examinations are also ordered by the act of March 3, 1909. These examinations involve the consideration of the advisability of specially widening the normal channel in front of these three places; and the same question may arise at one or more other places.

I consider these special examinations as properly but parts of the examination of the Hudson River, provided for as above stated; and deeming the further improvement of the river to be worthy of being undertaken by the General Government, I recommend that surveys for the special examinations provided for, of which that herein reported upon is one, be authorized and the reports thereon be incorporated in one comprehensive report upon the proposed further improvement of the Hudson River.

JOHN G. D. KNIGHT,
Colonel, Corps of Engineers,
Division Engineer.

[Third indorsement.]

BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
Washington, D. C., August 9, 1909.

Respectfully returned to the Chief of Engineers, U. S. Army.

The preliminary examination reported upon within was made in partial compliance with an item contained in section 13 of the act of March 3, 1909, requiring consideration of the advisability of improving the Hudson River at Coeymans, at Albany, and at Troy. Each of these localities has been made the subject of a separate report by the district officer.

The same act, in another item, also called for a preliminary examination of "Hudson River, with a view to providing a channel not less than 200 feet wide and 12 feet deep at all stages from deep water in the lower river to Waterford * * *." The report on that examination has been submitted by the district officer and a survey recommended.

The localities considered in the within and the accompanying reports are within the limits to be covered in the formulation of a plan for improving the river under the item of law just quoted. On account of their intimate relation to such general plan, the Board believes that they should be considered in connection therewith, and the necessary estimates and recommendations be included in one comprehensive report on the proposed general project. To defray the additional expense of these special investigations, which the Board believes to be justified by the interests involved, the Board recommends the allotment of the sums requested by the district officer.

It is further recommended that in his final report the district officer give careful consideration to the practicability and desirability of securing the cooperation of local interests in the work of improvement at the localities requiring special attention, and to the provision of adequate terminal facilities at such localities.

For the Board:

D. W. LOCKWOOD,
*Colonel, Corps of Engineers,
Senior Member of the Board.*

[Fourth indorsement.]

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, August 17, 1909.

Respectfully submitted to the Secretary of War.

This is a report on preliminary examination of Hudson River at Coeymans, New York, authorized by the river and harbor act of March 3, 1909.

Inviting attention to the report of the Board of Engineers for Rivers and Harbors in the preceding indorsement, I recommend that a survey of the locality, as proposed, be authorized.

FREDERIC V. ABBOT,
Acting Chief of Engineers.

[Fifth indorsement.]

WAR DEPARTMENT, *August 18, 1909.*

Approved.

JOHN C. SCOFIELD,
*Assistant and Chief Clerk,
for the Secretary of War in his absence.*

PRELIMINARY EXAMINATION OF HUDSON RIVER, NEW YORK, AT
THE MOUTH OF ISLAND CREEK AND VICINITY.

UNITED STATES ENGINEER OFFICE,
New York City, August 2, 1909.

SIR: I have the honor to submit the following report upon a preliminary examination of the Hudson River at Albany, with a view to providing additional area of navigable depth at the mouth of Island Creek and vicinity, for the benefit of general commerce and the making up of barge tows, in accordance with the provisions of section 13 of the river and harbor act approved March 3, 1909.

Boats coming from the Erie and Champlain canals are usually made up into fleets at Albany for towing down the Hudson River. In making up these tows and in swinging into position for starting an area of waterway is required broader than that offered by the ordinary river channel. The shoals opposite the mouth of Island Creek and vicinity restrict the area required unduly and make dangerous navigation at this point when tows are being formed or are swinging. They also make difficult of access the Delaware and Hudson Company's docks in the neighborhood of Island Creek. Their removal is desirable.

It is my opinion that the work necessary at this point should form a part of the general project for the improvement of the river now under preparation, and should not be a separate project.

I therefore have the honor to report that this locality is worthy of improvement as a part of the general project for improvement of the river, and that it should be provided for in said project. The estimated cost of the necessary map is \$20.

Very respectfully,

W. M. BLACK,
Colonel, Corps of Engineers.

The CHIEF OF ENGINEERS, U. S. ARMY.
(Through the Division Engineer.)

[First indorsement.]

NORTHEAST DIVISION, ENGINEER OFFICE,
Washington, D. C., August 4, 1909.

Respectfully forwarded to the Chief of Engineers, U. S. Army.

The existing project for improving the Hudson River contemplates a 12-foot channel of width increasing from that at the State dam at Troy to that at Coxsackie, 28 miles below.

The river and harbor act of March 3, 1909, provides for an examination of that river, with a view to providing a deeper and in places a wider channel, and for extending this channel both downstream and upstream 2.6 miles to Waterford, the terminus of the New York barge canal.

Lying between the ends of the channel under improvement are situated Coeymans, Albany, and Troy, and at each of these places special examinations are also ordered by the act of March 3, 1909. These examinations involve the consideration of the advisability of specially widening the normal channel in front of these three places, and the same question may arise at one or more other places.

I consider these special examinations as properly but parts of the examination of the Hudson River, provided for as above stated; and deeming the further improvement of the river to be worthy of being undertaken by the General Government, I recommend that surveys for the special examinations provided for, of which that herein reported upon is one, be authorized and the reports thereon be incorporated in one comprehensive report upon the proposed further improvement of the Hudson River.

JOHN G. D. KNIGHT,
Colonel, Corps of Engineers,
Division Engineer.

[Third indorsement.]

BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
Washington, D. C., August 9, 1909.

Respectfully returned to the Chief of Engineers, U. S. Army, inviting attention to the Board's report of this date on report of preliminary examination of Hudson River at Coeymans.^a

For the Board:

D. W. LOCKWOOD,
Colonel, Corps of Engineers,
Senior Member of the Board.

[Fourth indorsement.]

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, August 17, 1909.

Respectfully submitted to the Secretary of War.

This is a report on preliminary examination of Hudson River at Albany, N. Y., authorized by the river and harbor act of March 3, 1909.

Inviting attention to the report of the Board of Engineers for Rivers and Harbors in indorsement dated the 9th instant on a separate paper, I recommend that a survey of the locality as proposed be authorized.

FREDERIC V. ABBOT,
Acting Chief of Engineers.

[Fifth indorsement.]

WAR DEPARTMENT, *August 18, 1909.*

Approved.

JOHN C. SCOFIELD,
Assistant and Chief Clerk,
for the Secretary of War in his absence.

^a See page 12.

SURVEY OF HUDSON RIVER, NEW YORK, AT VARIOUS LOCALITIES.

U. S. ENGINEER OFFICE,
New York City, January 10, 1910.

SIR. In compliance with the provisions of section 13 of the river and harbor act, approved March 3, 1909, and the instructions contained in the letters of June 5 and September 8, 1909, from the Chief of Engineers, I have the honor to submit the following partial report on the improvement of the Hudson River with a view to providing a channel not less than 200 feet wide and 12 feet deep at all stages from deep water in the lower river to Waterford, including a lock and dam at Troy suitable in size for all probable purposes of navigation and commerce to and from the barge canal; of the Hudson River at Coeymans, N. Y., with a view to securing a suitable width and depth in the channel along the village front behind the Government dike; also at Albany, with a view to providing additional area of navigable depth at the mouth of Island Creek and vicinity for the benefit of general commerce and the making up of barge tows; also at Troy, with a view to widening the channel below Adams street.

The allotments for the necessary surveys were made on June 5 and September 8, 1909. The field work was begun as soon as practicable and continued until the close of the working season. Much data has been obtained from which the details of this important project can be determined. As yet there has not been time sufficient to complete the necessary studies. The new Champlain Canal will probably be open for navigation in 1913, and the work on the main barge canal is far advanced.

The only outlet from these great improvements now existing is through the sloop lock in the State dam at Troy—with interior dimensions of 125 by 28 feet, and a depth of $4\frac{1}{2}$ feet at mean low water over the lower miter sill (about $2\frac{1}{2}$ feet at extreme low water), the lock dimensions in the new canal being 310 by 45 feet, with 12 feet over the lower miter sill. The dam itself is a stone-filled crib structure in bad repair, with its crest 2 feet too low to afford the 12-foot depth on the lower miter sills of the lowest State locks. In addition, below the lock, between its lower gate and the improved channel of the Hudson, is a rock ledge with a depth over it of $4\frac{1}{2}$ feet at mean low water.

From this it is evident that until a new lock and dam with the necessary channel approaches has been constructed, the through commerce of the new canals will be restricted to the capacity of the old State canals, and the new State work, on which \$101,000,000 is being expended, will be of but trifling value.

The existing project for the improvement of the Hudson provides for a 12-foot channel 150 feet wide from the State dam to the foot of Jacob street, Troy; thence gradually increasing in width to 400 feet at the foot of Broadway, Troy; thence 400 feet wide to Cox-sackie, at an estimated cost of \$4,343,863.

Up to December 31, 1909, \$3,786,668.71 has been expended on this project, of which \$334,022.33 was for maintenance, and \$14,432.37 for Tarrytown Harbor and Schodack Creek, not included in original estimates—and there was then existing a channel having a width of not less than 190 feet and a maximum depth of 12 feet at mean low

water from Cocksackie to the Delaware and Hudson Company's bridge at Troy, except at the New York Central and Hudson River Railroad Company's freight bridge at Albany, where the channel through the draw span is contracted to a maximum of 90 feet; and a depth of 11 feet and minimum width of 75 feet from the Delaware and Hudson Company's railroad bridge to within 900 feet from the State dam.

The depths mentioned above are depths below the plane of mean low water. Inasmuch as the canals will have a least navigable depth of 12 feet at all stages, and inasmuch as at the lowest stage the river falls from 2 to $2\frac{1}{2}$ feet below the mean low-water plane, it is evident that advantage can not be safely taken of the full depth in the canals until the present improved channels have been deepened.

At least three working seasons would be required to complete a new lock and dam and its channel approaches, and if it be desired to have this work finished in time for the opening of the Champlain Canal, work must be begun at once. Under these considerations it is deemed advisable to submit a general plan and estimate at this time, making a full report later when the studies of the river shall have been advanced sufficiently to permit the details of the work to be devised.

CHANNEL ABOVE DAM.

The proposed channel in the Hudson above Waterford, which forms the southern reach of the Champlain Canal, is 200 feet wide, and that of the earth cut in the main barge canal is 133 feet. The minimum width named in the act of March 3 for the Hudson, 200 feet, will probably be sufficient for the section between the dam at Troy and Waterford, which will be in reality a canal section, navigated by boats, singly or in tows, of the size used in the canals.

The estimate for this channel under the assumption that the pool level will be at the elevation proposed for the crest of the dam (15.2 feet above the barge canal datum, as determined from zero of the Greenbush bench mark), is as follows:

Rock excavation, 9,000 cubic yards, at \$3.50	\$31, 500
Dredging 25,000 cubic yards, at 50 cents	12, 500
Total.....	44, 000

LOCK AND DAM.

The dimensions adopted for the lock chambers of the barge canals are 310 by 45 feet. Inasmuch as the traffic of both canals will have to pass through the lock at Troy, and as the dimensions for the State locks, as built, were determined after a careful study of the canal requirements, and represent what may be considered a conservative estimate of these requirements, it is evident that the capacity of a single lock at Troy should be greater than that of a lock sufficient for the service of one canal alone.

It is deemed unwise at present to construct twin locks at Troy. Should the canal commerce develop to the extent that seems probable, one lock at Troy will not be sufficient. But more than two locks can not be built side by side without unduly restricting the length of dam crest. Further, the type of boat and of tow which will be used in the canals is as yet a matter of theory only. Experience will bring out the type, and until that is had it would be unwise to build the second lock. Under these conditions it is deemed best to plan for

a lock having the chamber width of the canal locks (45 feet) and a chamber length one and one-half times as great (465 feet), divided by gates into two chambers of 310 feet and 155 feet length, respectively, so as to economize time and water when small boats or tows are to be passed.

The height of the crest of the dam must be placed at, at least, the level of 15.2 feet above the barge canal datum in order to give the requisite depths on the miter sills of the lowest locks of the two canals, and the estimate is made accordingly. Should further study show it to be advisable to increase this height somewhat in order to provide storage of water for power purposes, this can be done without making any marked change in the estimates.

The location of the dam is another question. In the preliminary report submitted by Col. D. W. Lockwood, Corps of Engineers, under date of December 28, 1906, and printed in H. Doc. No. 539, 59th Cong., 2d sess., two projects are outlined. In both the new dam is placed immediately below the existing dam. In one the lock is placed at the head of the narrow channel, close to the east bank of the river. In the other it is placed close to the west bank. In the former the approach from the north is crooked, and would require boats to make a turn just above the lock across the current flowing over the dam. In times of even minor freshets this would be dangerous. A few years ago a towboat attempting to enter the existing sloop lock in the time of a freshet got out of control and was carried over the dam. This turn would also increase the time lost in passing the lock.

Below the lock the approach is through the narrow channel skirting the wharves of Troy. Should the city of Troy carry out the plans which are mentioned later in this report, this channel will be obstructed by boats lying at the wharves, and at best it would not afford a width sufficient to allow boats after a downstream lockage to pass boats moored close below the lock awaiting their turn for lockage. If the lock were placed far enough from the east bank to allow a straight approach above and below, it would restrict the length of dam crest unduly unless the lock were cut off from the shore by a further length of crest. This last would expose the lock and its appurtenances to injury in floods or during the flow of ice, and would render the operation of the lock more difficult.

In the second project straight approaches of adequate width could be made. The approach from the south, lying close to the west bank of the river, would be entirely useless as a part of the harbor of Troy, and if the new channel, as well as that now existing and affording access to Troy, were to be maintained, it would necessitate the construction and operation of two sets of draw spans in each of the bridges.

After a careful consideration of the question it has been decided to recommend the construction of the new dam about 1,400 feet to the north of the site of the existing dam, with the lock placed close to the east bank, as shown on the accompanying map. The advantages of this site may be summarized as follows:

1. Rock foundations throughout at a moderate depth.
2. A length of crest somewhat greater than that of the existing dam.
3. Location of lock directly against east bank.
4. Straight approaches above and below lock.
5. Ample room above and below lock for boats awaiting a lockage.

It will be necessary to purchase a narrow strip of land on the east bank sufficient to provide for the lock, abutments, guide cribs, and accessories; and on the right bank a portion of Green Island, and a space on the river bank for the abutment. Green Island (or Jan Gowzen Island) is of slight value, being, for the greater part, under water when the river is about 1 or 2 feet above the low-water stage. At least two piers will have to be constructed above the lock to which boats awaiting lockage can tie.

Certain manufacturing establishments on the east and west banks of the river are now using power developed by the dam under leases obtained from the State of New York. The lease for the east side was obtained in 1832. It may be summarized as follows:

The lease is for the use of one-half of “* * * the surplus waters created by the erection of the State dam in the Hudson River * * * for the term of nine hundred and ninety years.”

The lessees are to pay to the State—

“\$50 for the first year, with an increase of \$50 a year for every year thereafter until it amounts to the sum of \$300 a year, and then to continue at the said sum of \$300 a year for the remainder of said term.”

The conditions of the lease stipulate that the lessees may have—

“* * * the use of the surplus water which may be taken at the east end of the aforesaid dam, and not exceeding one-half of the quantity which may be taken at both ends of said dam, such surplus water to be taken and drawn from the said dam at such place and in such manner, and be discharged at such place and in such manner, as the acting canal commissioner or the canal commissioners shall from time to time direct; saving and reserving to the said parties of the first part the right wholly to resume the waters hereby conveyed and the privileges hereby granted, and to control and limit the use of said water and privileges whenever, in the opinion of the canal board or of the legislature, the necessary supply of water for use of any State canal, or the safety of such canal, or works connected therewith, shall render such resumption, control, or limitation necessary. And in case any such resumption shall be made, or control or limitation imposed, no compensation or damages shall be allowed for any improvements or erections made, or which may be made under or in consequence of this grant or lease. And also saving and reserving to the said parties of the first part the right, without making any compensation to the said parties of the second part, or any other person claiming under them, wholly to abandon or destroy the work, by the construction of which the said surplus water has been created, whenever, in the opinion of the canal commissioners, the occupation and use of the said work shall cease to be advantageous to the State.”

The lease granted for water for the west bank was made in 1835 for the same term of years, and in similar form, with similar provisions.

Under these leases certain manufacturing establishments on the east bank have been using about 1,740 horsepower per year, and those on the west bank about 190 horsepower. The State authorities have permitted these establishments to raise the crest of the dam by flash boards, and to store water by night for use during the day, causing fluctuations in the pool level during the season of lowest water, which might be inadmissible when the new barge canals are in full operation. It is probable that when the new dam is built there will be surplus water sufficient to develop at least about 1,400 horsepower, which should be utilized. A small portion of this can be used for operating and lighting the lock; the remainder can be sold.

It will be noted that the abandonment of the existing structure by the State extinguishes these leases automatically. The legal successors of the canal commissioners are the canal board. I am informed that this body is ready to abandon the dam as soon as the

United States has constructed a new lock and dam. The proposed change in location of the dam would not prevent the continued use of the surplus water for obtaining power by these establishments; for a flume can be constructed to supply it. New and mutually advantageous arrangements can be made, if desired, with the owners of these establishments for this purpose, or, since the removal of the site makes it possible to locate other new establishments in a position which would make it possible to utilize the power, with other parties. In other words, the change in location of the dam would not destroy any vested rights for the use of the power developed, nor would such removal prevent the present users from continuing its use. It would, however, place the Government in a position to obtain an adequate return for such power. Time has not permitted an estimate of cost of a new flume to be made.

If the United States decides to undertake the construction of the lock and dam the Secretary of War should be authorized to purchase, by condemnation or otherwise, under the general statutes of the State of New York, the real property necessary for the improvement, and also to grant leases or licenses for the use of the surplus water for water power created by the dam, at such a rate and on such conditions and for such periods of time as may seem to him just, equitable, and expedient; the said leases or licenses to be limited to the use of the surplus water not required for navigation, and to a period not exceeding twenty years; for the occupation of such land belonging to the United States on the Hudson River as may be required for power flumes or other industrial purposes not inconsistent with the requirements of navigation; and to construct such work or works appurtenant to the dam as may be necessary for the development and use of said water power.

The approximate estimate for the lock and dam and piers is as follows:

40,000 cubic yards concrete, at \$10.....	\$400, 000
360 cubic yards concrete for piers, with pile foundations.....	5, 000
14,700 cubic yards rock excavation, at \$3.....	44, 100
36,000 cubic yards dredging, at \$0.50.....	18, 000
Gates, machinery, etc.....	55, 000
Lands and land damages.....	25, 000
Total.....	547, 100

CHANNEL BETWEEN DAM AND HEAD OF BREAKER ISLAND AND HARBOR OF TROY.

Immediately below the dam the area above the existing State dam, now covered by alluvial deposits, should be cleared so as to prevent these deposits from being carried into the improved channels below. This will require the dredging of an area of about 26 acres to a depth of about 5 feet. The greater part of this excavation can be done in the dry. The estimated volume is 425,000 cubic yards and the estimate of cost is \$106,250.

The old State dam and lock must be removed. The estimate for this work is:

Removing 34,222 cubic yards of stone-filled crib, at \$1.....	\$34, 222
Removing 10,370 cubic yards of stone-filled crib, at \$0.50 per cubic yard....	5, 185
Removing 13,333 cubic yards of old masonry lock, at \$3 per cubic yard.....	40, 000
Total.....	79, 407

Immediately below the lock a basin must be formed for the accommodation of boats awaiting lockage, and suitable piers must be built to which such boats can tie. Inasmuch as tows of from 70 to 80 boats were of frequent occurrence, provision for their reception and handling must be ample. For the present it is proposed to place two concrete piers along the west side of the basin and to excavate a basin to the required channel depth, north of Adams Island joining the channels on the two sides of Adams Island and extending to the lower end of the lock, as shown on the accompanying map. The estimate for this work is as follows:

2 concrete piers, on crib foundations.....	\$4,600
16,390 cubic yards rock excavation, at \$3.....	49,170
530,000 cubic yards dredging, at 35 cents.....	185,500
Total.....	239,270

Between this basin and the Delaware and Hudson Company's bridge there is a channel between Adams Island and the east shore 130 feet wide and 11 feet deep at mean low water. The existing project calls for the increase of the width of this channel to 150 feet.

It is proposed to make this channel 150 feet wide and 12 feet deep at the lowest stage (2 feet deeper than at present) and to make a new channel 200 feet wide and 12 feet deep at the lowest river stages to the west of Adams Island, joining the existing channel below the island, and increasing the waterway to a clear width of 500 feet between Adams Island and the bridge, leaving the removal of Adams Island, which is of rock formation, to some future date when the demands of commerce shall justify the expense.

Between the Delaware and Hudson and Congress street bridges the proposed channel skirts the bulkhead line, and has a width of 500 feet. Below the Congress street bridge the channel is given practically the full width of the river as far as the Burden Iron Works, below which it is narrowed to 400 feet, which, for reasons to be stated later, has been adopted as the minimum channel width for the improved river. The increased width below the Congress street bridge is required to permit the passenger steamers of the Troy-New York Line to turn. Their dimensions are 330 feet in length by 76 feet beam. It further will permit the assemblage of tows for the passage to the lower river, as well as afford room for general harbor purposes.

The estimate of cost for this work is as follows:

316,384 cubic yards rock excavation, at \$3.....	\$949,152
1,518,920 cubic yards dredging, at 25 cents.....	379,730
Total.....	1,328,882

Inasmuch as the works proposed at and above Troy will form the junction between the State barge canal systems and the improved channels of the Hudson River, or, in other words, are an essential outlet for the barge canals, it has been deemed advisable to lay the project for these works before the advisory board of consulting engineers for the barge canal. I am authorized by that board to state that the project meets with their approval.

A statement of the existing commerce and of the commercial needs of Troy and of the cities on the opposite bank of the Hudson was forwarded with the report on the preliminary examination of the Hudson River at Troy, dated July 31, 1909, to which attention is invited. An examination of the conditions shows that while Troy

had in 1908 a water commerce amounting to 521,000 tons, with an estimated value of \$24,000,000, full use had not been made of the commercial advantages arising from its location on the Hudson River at the head of tide-water navigation and at the terminus of railroad lines extending in all directions into the surrounding country. This was due partly to the neglect to provide proper wharf accommodations for handling and transferring freight, and partly to the fact that the established bulkhead line along the southern half of the city lay at a distance from the channel, in shoal water having a rock bottom, through which a channel could not be excavated excepting at a cost practically prohibitive to an individual wharf owner.

The business men in Troy are fully awake to the necessity of improving the commercial facilities of their city, and of the advisability of preparing to take full advantage of the increased possibilities of traffic which will follow the opening of the Erie and Champlain Barge canals. They desire to have the river channel brought to their bulkhead line; to have it given width sufficient to afford room for harbor work, and the assembling into tows of the boats which will pass singly or in small groups through the canals and through the last obstacle to free navigation—the lock at the dam at Troy. Supported by a resolution of the city council, a copy of which was forwarded with the report of the preliminary examination mentioned above, they are prepared to build a substantial bulkhead along the city front; to secure and maintain public wharves; to build and maintain suitable warehouses for storage of freight; to enforce laws and ordinances prohibiting the obstruction of the channel by city refuse; and to remove by dredging the gravel and refuse which may pass into the river from the public sewers or the creeks passing through the municipal boundaries.

They have had a competent engineer form a project for a comprehensive improvement for the Troy water front and are prepared to expend the sum of at least \$500,000 for such work within two years after the acts have been passed by Congress making the necessary appropriations for the improvements desired. A letter from Mr. E. W. Douglas, president of the Chamber of Commerce of Troy, to this effect is presented herewith.

In my opinion the interests of a large section of the United States would be served by widening the channel of the Hudson at Troy, so as to cause it to lie contiguous to the established bulkhead line and to afford room for a harbor, since the geographical location and the existing railroad facilities of Troy are such as to enable freight to be transshipped between water and railroad lines and distributed through that port at a minimum of cost, and since the manufacturing interests of Troy are in themselves sufficient to support a large commerce of raw materials and manufactured articles of a class which can be well served by water carriage.

It is somewhat difficult to separate the works for the improvement of the river necessary for the accommodation of the through traffic past Troy, which may be expected with reason to follow the opening of the canals to the west via the Great Lakes, and to the Champlain region and Canada in the north via the Champlain and Canadian canals, from the works required for Troy proper.

A reasonable view of the requirements for the through traffic may be to consider the works proposed for the service of that traffic

to include the 200-foot channel to the west of Adams Island and a 400-foot channel from the foot of Adams Island south, charging to the harbor of Troy the cost of the improvement of the narrow channel east of Adams Island and the cost of the widening of the 400-foot channel below to the dimensions shown on the map.

The total estimated cost of the proposed improvement between the new dam and the head of Breaker Island, as detailed above, is \$1,328,882.

The divisions on the line stated would be:

For improvement of the channel	\$908,323
For the harbor of Troy	420,559
Total.....	1,328,882

There are in existence wharves along more than half the water front of Troy, which, though privately owned, are open to the use of any shippers desiring to use them. Through the lower half of the city this privilege is of little value, since the river bottom is of rock and the low-water depth at the wharves varies from 0 to 8 feet, and it is dangerous for boats to lie at them.

The harbor of Troy is crossed by two bridges; the lower, the Congress street bridge, has a clear height of 35 feet above the river at the lowest stages. It has a swing span affording clear openings of 109 feet on each side of the pivot pier. This span is fairly well located with respect to the proposed channel lines and probably the bridge need not be changed for the present. It is used for trolley-car and wagon traffic.

The Delaware and Hudson Railroad and highway bridge carries a single-track steam railway in its north half and a highway containing trolley tracks in its south half. The clear height above the river surface at the lowest stages is 26 feet. It has a swing span with the pivot pier located on the east bank, and affords one clear opening for navigation 45 feet wide.

To afford proper facilities for navigation this bridge should be raised at least to the height of the Congress street bridge, which can be done without disarrangement of the street grades in Troy. The draw should be placed about in the middle of the proposed channel, and probably should afford a clear channel width of at least 175 feet, if there is but one opening; or two openings of 125 feet each, if a swing span supported on a central pier be employed. The removal of the second pier to the west of the pivot pier and the substitution of a bascule span with two draws for the present fixed spans would probably be the best arrangement. This subject will have to be taken up later and definite recommendations made after all parties interested have been heard.

The reach of the river along the Troy front will be traversed by the canal traffic as well as the traffic to and from the lower river and the usual harbor movement of boats. The bridges are practically streets joining the cities on the two banks and carry as well the trains of the Delaware and Hudson Railroad and the trolley lines to the communities near by. Traffic over them is practically continuous. Interruptions to this traffic by the necessity of opening the draw spans should be made as infrequent as possible. For the benefit of navigation as well as land traffic the bridges should afford the maximum clear height above the water which the conditions of the

shore connections will permit. A study is being made of the matter, and a report and recommendations will be submitted later.

CHANNEL FROM HEAD OF BREAKER ISLAND TO DEEP WATER.

The minimum channel width recommended is 400 feet. The reasons for this are as follows: The greater part of the commerce of the river is of two general classes: (a) Steamboats engaged in passenger and freight traffic, and (b) barges and canal boats assembled into fleets and towed by a powerful steamboat. The boats in class (a) are an important factor. In 1908 they carried 1,288,721 passengers in addition to many tons of freight. The largest of the boats are the *Morse* (length 427 feet, beam 90 feet), the *Adirondack* (length 412 feet, beam 88 feet), the *Hendryk Hudson* (length 400 feet, beam 82 feet), the *Robert Fulton* (length 348 feet, beam 76 feet), the *Rensselaer* (length 330 feet, beam 76 feet), and the *Trojan* (length 330 feet, beam 76 feet). These boats make daily trips between New York and Albany and Troy. (b) The fleets form tows of solid masses 1,100 feet long and 100 feet wide, hauled by a line from the towboat. In bends, or under following or beam winds, they swing diagonally across the channel. They are difficult to guide and, when going with the current, difficult to stop. In the existing shallow channels the speed of the large boats must be checked whenever a boat tied to the bank is to be passed, lest the following wave caused by the steamer tear the boat from its moorings. These large boats have difficulty in passing the tows and indeed can not do so excepting in the broader straight reaches, and in case of accident can not turn around excepting in such reaches, which are infrequent in the upper river. To pass safely, the channel in straight reaches should be wide enough to afford a clearance at the bank and between passing boats of 50 feet, and a tow may be expected to cover about 150 feet of channel width. In bends, when practicable, the channel should be widened to a greater extent.

The depth required is 12 feet at the lowest stages. Each marked improvement in the upper river has been followed by a change of tidal range. This is natural, since during the low-water river stages the fresh-water discharge is diminished to 2,000 cubic feet per second, and the river, as far as the State dam, becomes an arm of the sea, with its currents and levels dependent on the tidal oscillations. In 1876 the tides had a range at the State dam of 0.8 foot, with the mean low-water plane 3.43 feet above the barge canal datum. At this time the range is 2.06 feet, with the mean low-water plane 2.2 feet above the same datum.

The studies are not yet sufficiently advanced to enable the probable new plane of low water to be determined. For the purposes of this estimate it is assumed that above the Delaware and Hudson bridge at Troy the plane of the surface at the lowest stage will be 2 feet below the present adopted mean low-water plane, and below that bridge as far as Coxsackie it will be $2\frac{1}{2}$ feet below the same plane. It is doubtful whether further study will greatly change this determination.

The improvement will consist of dredging, rock excavation, and the construction of dikes and training walls, and will have to be extended nearly as far south as Hudson. The exact location and

extent of the permanent works can not be determined until the necessary studies are further advanced. It is believed, however, that the estimate made will cover the necessary work. This estimate is as follows:

5,082,160 cubic yards dredging, at 25 cents per cubic yard.....	\$1, 270, 540
67,385 cubic yards rock excavation, at \$3 per cubic yard.....	202, 155
69,000 linear feet dike construction, at \$13.....	897, 000
Total.....	2, 369, 695

The price for dredging and rock excavation will be a function of the localities obtained for the deposit of the excavated materials and of the means by which the deposits can be made. It is very advisable that all such materials shall be deposited outside of the river channels, and in such a manner that they can not reenter these channels.

HUDSON RIVER AT ALBANY.

The city of Albany has few modern wharves, but is engaged now in the work of making extensive improvements to its water front. One piece of concrete bulkhead 356 feet long has already been constructed, and plans have been made for purchasing private property along one-half mile additional and making the requisite improvements. Of this, 800 feet has already been purchased.

The only special improvement desired at Albany is the widening of the river opposite and below Island Creek to an extent sufficient to allow for the assemblage of tows from boats which have passed through the canals. Inasmuch as such space is requisite for the proper accommodation of the regular through traffic, it would seem hardly just to class this work as one of value to Albany alone. Should that, however, be deemed necessary, it can be taken as the width proposed below the lower bridge at Albany additional to the regular 400-foot channel width. The estimated cost of this work is \$105,000. It has been included in the general estimate for the river.

Three bridges cross the Hudson at Albany. The draw spans of two of these bridges have already been a cause of complaint by persons navigating the river. These complaints were made the subject of an official investigation by the War Department in 1908, when it was decided to direct no extensive changes unless future demands of commerce incident to the opening of the Erie barge canal should so require. Further report on this question will be made at a later date.

HUDSON RIVER AT COEYMANS.

Since the construction of the West Shore Railroad the commerce of this port has fallen from a bargeload of freight daily to one per week. Little interest is taken by the citizens of Coeymans in this work, the water commerce being practically all confined to one shipper, who owns the entire wharf front, but who allows boats to land at a small charge. The channel in the rear of the dike has shoaled to about 7 feet depth at mean low water. The improvement desired is to deepen this channel to 9 feet at mean low water, so as to permit the local passenger boats to land. The estimated cost of this dredging is \$6,200. To assist in maintaining the dredged channel when made it is proposed to shorten the middle ground dike

by removing its lower end for 200 feet, at a cost of \$3,000, making the total cost of the work desired at Coeymans \$9,200.

In my opinion the harbor is not worthy of improvement. It would be more reasonable and better for the maintenance of the Hudson River channel to have the town authorities build a bridge to the dike and a landing on its front under a permit from the Secretary of War.

To recapitulate, attention is again invited to the fact that this report is submitted on account of the urgent need of beginning work at and near the State dam, in order that the barge canal commerce may have access to the river as soon as the canals are opened. The detailed project has not yet been completed for the reason that its formation was not directed by Congress until March, 1909, and the field work could not be completed until the end of November. Much study is yet required before definite recommendations can be made as to the details of the work. The estimates are approximate only, but are believed to be sufficient to cover the work required.

These estimates are as follows:

Channel from Waterford to dam.....	\$44, 000
Lock, dam, and piers.....	547, 100
Clearing river bed immediately below dam.....	106, 250
Removal of old lock and dam.....	79, 407
Basin below lock.....	239, 270
Improvement between head of Adams Island and head of Breaker Island...	1, 328, 882
Improvement from head of Breaker Island to deep water at Hudson.....	2, 369, 695
Total.....	4, 714, 604
Engineering and contingencies, 10 per cent.....	471, 460
Grand total.....	5, 186, 064

Of the above the estimated cost of the work properly chargeable to the harbor of Troy is \$420,559; that for the harbor at Albany is \$105,000.

The cost of the work estimated for Coeymans, amounting to \$9,200, is not included in the above figures.

If this project is approved and the work authorized, provision should be made for executing the work under continuing contracts. Unless the dredging and rock excavation can be carried on under a large contract, it is probable that work of that character above and below the dam can be done most advantageously separately, as separate plants would have to be provided, on account of the difficulty of passing the sloop lock. It is important that the work in the lock and dam should be started at the earliest practicable date, and that the connecting channel between the new lock and the existing channel below should be started in time to permit its completion immediately after the new lock and dam are built, in order that the commerce through the canals may be stopped for as short a time as practicable. The sum which can be expended advantageously in the coming year under a continuing contract for the construction of a lock and dam is \$300,000. The entire sum should be made available within two years in order that the work can be completed within three working seasons.

In the work below the dam \$1,000,000 can be expended advantageously in the next working season. The money should be made available for the improvement of the Hudson between Waterford and New York Harbor.

Should Congress decide to enter upon the execution of this project, the legislation enacted should contain provisions somewhat as outlined in page 19 of this report. Provisions for continuing contracts for all or a part of the works would also be advantageous and economical.

The value of the commerce of the Hudson River has been set forth many times in official reports, and it seems to be unnecessary to repeat the statistics. The State of New York has deemed it to its interests to authorize the expenditure of \$101,000,000 for the improvement of internal waterways of the State which must use the Hudson River as their principal outlet. These State waterways will form connecting lines between the Atlantic coast and the Great Lakes on the one hand and the lower Atlantic coast of the United States and the waterways of Canada on the other.

The improvement of the Hudson River to the depth necessary to permit the passage of the moderate-sized boats for which the State canals are designed, and to a width sufficient to provide for the number of such boats which the history of the Erie Canal shows will probably traverse these waterways, seems to be a reasonable proposition, even without a consideration of the needs of the commerce of the Hudson. In my opinion the Hudson River is worthy of such improvement.

Very respectfully,

W. M. BLACK,
Colonel, Corps of Engineers.

The CHIEF OF ENGINEERS, U. S. ARMY.

[Second indorsement.]

BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
Washington, D. C., January 31, 1910.

Respectfully returned to the Chief of Engineers, U. S. Army.

1. The district officer presents herein a plan of improvement for the Hudson River, covering the reach from deep water in the lower river to Waterford, the object being to afford suitable navigation facilities for the commerce of the Hudson River and that which is anticipated from the completion of the New York State canals. From this report it appears that one of the State canals (Lake Champlain) will be completed in about three years, and that if this part of the Hudson River, over which the commerce of the canal must pass, is to be improved in time to meet the development of the State waterways, work should be begun as soon as practicable. In view of this fact the district officer has submitted his report in advance of complete detailed studies and estimates. The general plan, however, appears to have had careful consideration, and while the district officer states that the estimates are approximate, he believes they are sufficient to cover the work proposed and that the careful study of details which will be necessary before the work is undertaken will not seriously affect the general plan or estimates. The district officer, who is also division engineer, is of opinion that the improvement is worthy of being undertaken by the General Government in accordance with the plan and estimates proposed by him.

2. It is proposed to give an available depth of water of not less than 12 feet at all stages, the width of the main channel below Troy

to be 400 feet, but widened into a basin at Albany. In the vicinity of Troy the width above the dam is to be 200 feet, widening into a basin just below the dam. For a short distance below this basin there will be a double channel, one on either side of Adams Island, with widths, respectively, of 150 and 200 feet. Between the Delaware and Hudson and Congress street bridges the width is to be 500 feet, below which it narrows to the proposed general width of 400 feet. The work proposed in the vicinity of Troy involves the construction of a new lock and dam and the removal of the old one. Consideration has been given to the advisability of improving the river at Coeymans with a view to securing a suitable width and depth in the channel along the village front behind the Government dike, as called for by the act under which this report is made. Investigation failed to disclose any great need of improvement at this locality, and for reasons given the district officer believes it is not advisable for the General Government to undertake this work, and in this view the Board concurs.

3. The work recommended by the district officer and its estimated cost may be summarized as follows:

Channel from Waterford to dam.....	\$44, 000
Lock, dam, and piers.....	547, 100
Clearing river bed immediately below dam.....	106, 250
Removal of old lock and dam.....	79, 407
Basin below lock.....	239, 270
Improvement between head of Adams Island and Breakers Island.....	1, 328, 882
Improvement from Breakers Island to deep water below.....	2, 369, 695
Engineering and contingencies.....	471, 460
Total.....	5, 186, 064

The district officer does not give the estimated cost of maintenance, but this will probably not be excessive.

4. While the improvement now under consideration would greatly stimulate and add to the convenience of handling the commerce of the Hudson River, its principal importance is its relation to the great work being done by the State of New York in the development of its canals, upon which it is to expend more than \$100,000,000. Without further improvement of this reach the full value of the work by the State can not be realized. It is the opinion of the Board that this improvement is of sufficient importance to the general public to justify its cost, and that it is advisable for the General Government to undertake the work, contingent, however, upon all existing water-power rights or privileges affected by the improvement being extinguished by the State of New York.

5. It is understood that both plans and estimates are general in character and require further careful study, particularly with reference to the low-water plane and its bearing upon the elevation of the lower sill of the lock. It is also deemed advisable to give further consideration to the dimensions of the lock chamber.

6. In compliance with the provisions of section 13 of the act of March 3, 1909, the district officer describes existing and proposed wharves and terminal facilities, and attention is respectfully invited to his remarks on this subject. With reference to water power to be developed by the new dam, he states that it is probable that there will be surplus water sufficient to develop at least about 1,400 horsepower, a small portion of which can be used for operating and lighting the lock, and the remainder can be sold.

He recommends that if the improvement be adopted, the Secretary of War be authorized to purchase, by condemnation or otherwise, under the general statutes of the State of New York, the real property necessary for the improvement, and also to grant leases or licenses for the use of the surplus water for water power created by the dam, at such a rate and on such conditions and for such periods of time as may seem to be just, equitable, and expedient; the said leases or licenses to be limited to the use of the surplus water not required for navigation and to a period not exceeding twenty years; for the occupation of such land belonging to the United States on the Hudson River as may be required for power flumes or other industrial purposes not inconsistent with the requirements of navigation; and to construct such work or works appurtenant to the dam as may be necessary for the development and use of said water power. In this recommendation the Board concurs, it being understood that all existing water-power rights shall have first been extinguished by the State of New York, as recommended above in paragraph 4. The Board reports that there are no other subjects so related to the project proposed that they may be coordinated therewith to lessen the cost and compensate the Government for expenditures made in the interests of navigation.

For the Board:

WM. T. ROSSELL,
Colonel, Corps of Engineers,
Senior Member of the Board.

LETTER OF THE CHAMBER OF COMMERCE OF TROY, N. Y.

TROY, N. Y., July 19, 1909.

DEAR SIR: In compliance with your recent written and verbal requests that the Chamber of Commerce of the City of Troy furnish you with certain information, we beg to submit the following facts, figures, and reasons from which, we believe, the inferences flow that the business and commerce of the city of Troy necessitate extensive improvements of the Hudson River at Troy and justify the expenditure by the General Government of a large sum of money therefor; that a wide extent of territory will be served thereby; that the city of Troy will supplement the efforts of the Federal Government by providing public wharves and warehouses and ample facilities for handling freight and will furnish adequate assurances that it will maintain any improvement that may be made in widening and deepening the river, by preventing the shoaling of the deepened area from deposits from the city itself, by sewers or otherwise, and by periodical removal of such deposits, should any be formed; that the interests of the city of Troy will be promoted; that a wide extent of surrounding territory will be greatly benefited; that the annual gain from the decrease in the cost of transportation to the people at large who would use Troy as a port would be greater than the annual interest on the money to be expended by the Government; and that the benefit to be obtained from the investment of the people's money will be distributed at large among the people.

The city of Troy is situated on the east bank of the Hudson River at the head of tide-water navigation. It has 3 miles of dock and over 50 miles of paved streets and a population of at least 80,000. Outside of Greater New York it is the fifth city in population in the State. It is preeminently an industrial and manufacturing city. It is surrounded by prosperous and growing communities of like character. The Hudson River in years past (and for aught we know, at the present time) bears upon its waters a commerce greater than that of any other river in this country.

The State of New York is engaged in expending many millions of dollars for the enlargement of the Erie and Champlain canals. Both of these canals will empty their waters into the Hudson River at or near Troy. The vast commerce which it is confidently believed will be carried on the waters of the enlarged canals will enter the Hudson River opposite the boundaries of the city of Troy. The General Government has expended a considerable sum of money in deepening and widening the channel of the Hudson River up to and at Troy, but unfortunately that channel is

out in the river at considerable and varying distances from the dock line or from any established harbor line. The result is that in many instances vessels of considerable draft navigating in that channel can not reach the dock lines and there receive or discharge cargo, or they are very seriously delayed in so doing until the tide rises, and thus the object which the Government had in mind in making this channel has been in part defeated.

Attached hereto are excerpts from some of the letters received by us from some of our leading merchants and manufacturers in response to requests for information with respect to tonnage, and reasons for improvement of the river at Troy.

Abundant testimony was and can be given you by leading merchants and manufacturers that in former years they received very large quantities, and in some cases all, of their freight by boat alongside their docks, and that other local enterprises which desired to receive or ship freight in the same way had the free use of these; but that at the present time and for some years past they have been unable, owing to the want of depth in the river, to land vessels at their docks, and thus large quantities of coal, ore, and manufactured products have had to be transported by railroad, to the detriment of river commerce and increased cost to merchants and manufacturers.

It is a well-known fact that within a few years the railroads of the country have been unable to handle all the freight delivered to them. Serious congestion followed. This was true of the Troy district as well as of other portions of the State and country. The terminals of the several railroads in the city of Troy have been taxed to their utmost capacity and are limited in extent. The only and the most effective relief that can be secured is by the improvement and development of water commerce and facilities.

The General Government has obtained and published statistics which have an important bearing upon the business and commerce of the city of Troy. These statistics are to be found in Bulletin 59, issued by the Department of Commerce and Labor, Bureau of Census, and is a census of manufactures of the State of New York, 1905. The Government states that these figures are "confined to manufacturing establishments conducted under what is known as the factory system, thus excluding the neighborhood industries and hand trades."

We find the following figures as to Troy:

All industries.....	311
Proprietors and firm members.....	310
Salaried officials, clerks, etc.....	1,409
Wage-earners.....	19,114
Cost of materials used.....	\$13,746,280
Value of products, including custom work and repairing.....	\$31,860,829

This for one year only.

The above figures, of course, take no account of the freight received and sent out by the proprietors of wholesale stores, such as the hardware, furniture, groceries, clothing, and dry goods houses, or the stores doing both a wholesale and retail business, or the big stores doing purely a retail business. All these stores handle thousands of packages which do not figure in this bulletin either in the cost of materials used or the value of products of manufacturing establishments.

Nor do the above figures represent sufficiently the present aggregate, extent, value, and importance of the industries of Troy. They should be considered in forming opinion as to probable commerce upon the river. For example:

It is well known that Troy is the home of the collar industry, which is rapidly growing.

Over nine-tenths of the collars and cuffs made in this country are produced from the factories of the 30 manufacturers of Troy; the making of shirts is a considerable portion of the business of Troy manufacturers, though it is a more widely scattered industry.

These are the latest and best statistics obtainable with respect to the Troy collar, cuff, and shirt business:

Number of employees, 20,000; capital invested, \$15,000,000; the amount dispensed in this district for wages for the collar, cuff, and shirt industry for the year 1907 was more than \$13,140,000.

These factories are mostly situated on the river bank.

Here, too, is the Burden Iron Works, the largest horseshoe-making establishment in the world, and where immense quantities of merchant bar iron, stay-bolt iron, boiler rivets, and socket bolts are also turned out. These works are on the river bank. North of them is the old and well-known stove foundry of Fuller, Warren & Co., and north of that company are the extensive works of the Ludlow Valve Company, where valves of all kinds and sizes are made. Both of these establishments are on the river bank.

The manufacturing industries of the city of Troy are of the most varied character. It has the leading civil engineering and surveying instrument factory in the world,

and among other things is engaged exclusively in the manufacture of chains, brushes, iron tubing, malt beverages, paper boxes, paint, knit goods, and laundry machinery.

Troy has an assessed property valuation of upward of \$56,000,000. There are—

Persons and concerns engaged in manufacturing.....	1,297
Persons and concerns engaged in commercial avocations.....	1,977
Persons engaged in the various professions.....	1,082
Of the above there are incorporated manufacturing and business companies....	175
There are different transportation companies.....	16

The foregoing represents an army of industrial workers, a large annual output, and a large annual pay roll.

It is the converging point of four trolley systems, covering nine counties in eastern New York, and extending from Lake George to Hudson, with additional lines to Massachusetts planned.

A public market covering a city block.

Ten newspapers—four daily, three Sunday, two weekly, and a labor weekly; also two trade magazines.

A savings bank, eight national banks, two trust companies, three building and loan associations, four large department stores, many prominent wholesale houses and large retail establishments.

Three hospitals, a sanitarium, four orphan asylums, a reformatory, county house of industry, six homes, humane society, three Y. M. C. A.'s, young women's association, Salvation Army temple, splendid public buildings, mostly new; post-office, court-house, city hall, music hall, finest in northern New York; state armory, Troy Public Library, with 40,000 books; ten fine clubhouses, and five fraternity houses.

Troy has 72 churches, exclusive of chapels and missions, and 58 schools, which include 2 high schools, training school, the Emma Willard School, and the Rensselaer Polytechnic Institute. It also has 330 clubs and miscellaneous societies.

There is one very noticeable thing in the figures and that is the large and unusual percentage of persons who are engaged in gainful occupations to the total population of the city.

Opposite the city of Troy and at the junction of the Mohawk and Hudson rivers is the city of Cohoes. The same bulletin above referred to gives the following data as to that city for 1905:

Number of industries.....	95
Value of materials used.....	\$6,283,545
Value of products.....	\$10,289,822

Opposite the city of Troy and so situated that they are part of Troy's industrial community and essentially identified and dependent upon the prosperity of Troy are the—

City of Watervliet, with a population of.....	14,600
Green Island, with a population of.....	4,878
Waterford, with a population of.....	6,010

Making a total of..... 25,488

Statement of local tonnage and value of Troy's outgoing and incoming water traffic on the Hudson River in 1908 as reported by such of our merchants and manufacturers as responded to the request made by our chamber of commerce for the purpose of this report.

	Tons.	Value.
Lumber and timber.....	16,100	\$212,900
General merchandise.....	65,854	5,112,000
Raw material—muslin and linen.....	25,555	8,099,300
Grain, malt, etc.....	10,200	710,000
Coal, iron, sand, and stone.....	196,952	975,785
Manufactured products.....	27,274	7,987,047
Fruit and general produce.....	2,985	197,000
Cement, brick, fire clay, ice, and plaster.....	174,555	507,800
Drugs, paints, oil, glass, etc.....	1,385	295,000
Total.....	520,860	24,096,832
Estimated increase.....	371,642	25,949,000
To this may be added:		
Hudson Navigation Co. (Citizens' Line), reported to State for 1908.....	50,188	728,340
Glens Falls Cement Co.:		
Coal.....	9,419	20,594
Cement and plaster.....	17,963	126,755

Canal tonnage passing through Troy in 1908.....	1,366,229
Passengers carried on ferries and boats during same period:	
Ferries.....	1,474,300
Albany and Troy Steamboat Company.....	876,000
Hudson Navigation Company.....	41,548

The foregoing figures in so far as they purport to be actual we believe may be relied upon, and in so far as estimated that the estimate is conservative.

An attempt has been made also to procure and include the actual railroad tonnage appertaining to Troy for the year 1908. Owing to the limited time given, and the failure on the part of many of whom inquiries were made to reply in time for this letter, a full and accurate statement can not now be presented; but the following statement, based upon comparison of responses and ratio of amounts given is believed to be not only conservative, but much less than the fact warrants; at least it is the best statement which can be made without further diligent and systematic effort, but does not purport to be more than the result of an effort at approximation.

Railway tonnage in and out of Troy, N. Y., and value, 1908.

	Tons.	Value.
Lumber and timber.....	14,221	\$465,050
Manufactured products.....	117,920	37,878,983
Raw material—muslin and linen.....	33,939	7,911,460
Brick, stone, sand, and fire clay.....	18,450	564,000
Coal and iron.....	479,759	4,445,692
General merchandise.....	102,989	12,586,506
Fruit and produce.....	660	60,000
Total.....	767,878	63,911,691

It is fair to assume that the cost of materials used and value of products manufactured, as indicated by the foregoing, represents tens of thousands of tons of freight.

Because the location of the manufacturing and commercial establishments, and also because of the cheaper cost of water transportation, a very great proportion of this tonnage would be carried by water, if the river channel was extended to the dock line and Troy was made a public harbor.

A fair measure of the extent and growing prosperity of the city is reflected in the business of the Troy post-office.

There has been for several years a steady growth in the postal revenues. Four years ago the receipts of the office, exclusive of the money-order business, were less than \$200,000. In the fiscal year 1906-7 the receipts passed this figure, reaching \$201,474.07, while during the fiscal year 1907-8, when the great majority of the post-offices about the country were reporting heavy falling off in business, the Troy office showed a decrease of about \$1,400 only, remaining above the \$200,000 mark. During the fiscal year closing June 30 last the receipts were practically \$208,000, thus showing the rapid recovery and advancement of the business interests of the city from the period of depression.

The money-order business of the office has gained steadily as well as the stamp receipts.

There are connected with the Troy office in various parts of the city 8 numbered stations for the sale of stamps and the transaction of money-order and registry business, while in the section formerly Lansingburg there is a carrier station to which are attached 7 carriers and 3 clerks.

During the last few years there have been added to the service 5 rural free-delivery routes. In about the same period there have been added to the force of the main office 6 clerks and 7 carriers, making the present force consist of 33 clerks and 45 carriers, while 2 laborers have been added to the force necessary to care for the business of the postal-card and stamped-envelope subagency.

Troy has one of the four large subagencies established about the country by the Post-Office Department for the distribution of postal cards, stamped envelopes, and newspaper wrappers. The envelope and newspaper wrapper portion of the agency has been established by the department within the last few months. These supplies are all received in carload lots and distributed on orders from the Post-Office Department to the post-offices in this section of the country.

The United States Civil Service Commission has for a long time been constantly increasing the number of examinations held in Troy on account of location and superior facilities.

Changes in City Directory of 1909:

New names added in preparing directory, 1909.....	6, 524
Names erased in compiling directory of 1909, which includes the names of those who have died or removed from the city during the year.....	5, 572
Increase.....	952

Troy is a great distributing point.

The New York Central, the Boston and Maine, and the Delaware and Hudson railroads enter here. Vast quantities of goods are brought here by railroads from Massachusetts, Vermont, and northern New York, and transshipment is made both by rail and by water.

The Champlain and Erie canals enter the Hudson here.

It should also be noted that during the present year the Hudson Navigation Company has placed in operation between Troy and New York two new, splendid, steel-frame boats, each 330 feet in length, and that these carry thousands of passengers and thousands of tons of freight.

We have, in addition, a freight line running daily between Troy and other cities on the Hudson River, like Albany, Hudson, Kingston, Poughkeepsie, Newburgh. There is also the old and well-established Murray's line of barges between Troy and New York.

Something more than a year ago a petition was presented by navigation interests to the Secretary of War, asking that the draw openings of the two upper bridges at Albany be widened and the piers relocated. Among others, that petition was signed by the Cornell Steamboat Company, operating 53 tugs and steamboats; by the Inland Seamen's Union, operating 360 canal boats; by the Erie Boatman's Union, representing 500 boats; by the Catskill and Albany Steamboat Company; by the Central Hudson Steamboat Company; by Robinson, Baxter & Dissosway, operating 24 barges and tugs; by the Lake Champlain Transportation Company, operating 250 canal boats for freight between New York and Canada; and by the Jesse Billings estate, operating about 35 boats. All these companies or individuals do business at the city of Troy, or operate boats upon the Hudson River by and above this city. They represent a great commercial interest and a vast property interest, which is deeply interested in the improvement of the Hudson River.

The United States inspector of steam vessels at Albany reports:

Number of boats engaged on upper Hudson in towing, etc.	82
There are large freight boats.....	18
In addition, the Citizens Line has.....	2
The Albany and Troy Steamboat Company has.....	5
And there are ferryboats.....	5

It is confidently asserted that if there were created at Troy a public harbor with sufficient conveniences to accommodate traffic, the traffic would come. It is well known that no railroad was ever built for the traffic existing at the time of its construction, but that the traffic came with the increased facilities. The topography of the section of the country along the Hudson from Troy south is such that the capacity of the railroads can hardly be increased, the expense being prohibitive.

Troy merchants now suffer because of the delay of three or four days, or longer, required by the railroads to transport merchandise between Troy and New York, when by water the time required would be only for a day or a night. A water route to and from Troy would relieve the congestion which even now hampers greatly the railroads operating along the Hudson from Troy to New York.

It would seem to be entirely feasible and practicable to operate car floats or barges between Troy and New York for the accommodation of heavy bulk freight, such as stone, lumber, and like commodities, and this service could be performed at a cost not much, if any, in excess of the present expense of lightering freight from New York terminals of the railroads to coastwise and ocean steamships, and also to connecting railroads.

The statement is made that this month a Buffalo concern has received 4 canal-boat loads of yellow pine lumber. This stock was brought from the mills in the South to New York City by boat, there loaded into canal boats and brought up the canal to the Buffalo Creek and towed from there direct to the company's docks. They expect to bring in considerable of this stock in the same manner before the season closes.

A leading Troy lumber firm reports that it is in like manner now receiving yellow pine from the South and fir from the Pacific coast, which is shipped by water via Cape Horn and thence to Troy, and expects to develop its trade in such commodities in that manner, because of the decreased expense, even with that effort, over the cost of transportation by rail.

The present comparative rates, in cents per hundred pounds, between Troy and New York City are—

	First class.	Second class.	Third class.	Fourth class.	Fifth class.	Sixth class.
By rail.....	26	21	17	13	11	9
By water:						
Steamboat.....	23	19	15	12	10	9
Towing barge.....	20	16	13	10	9	8

Cargo lots of rough commodities can be transported between Troy and New York by water at approximately \$1 per net ton as against \$1.80 to \$2 by rail.

A real saving would be effected if, instead of transferring New York water-consigned freight at Troy, the loaded cars themselves be run on to car floats and thence to New York, thus eliminating cost of transferring the freight (which approximates 25 to 40 per cent of the total transportation cost, New York to Troy) and handling the loaded freight and empty cars much the same as it is now done across the Great Lakes and in and about New York Harbor. The cost of towing such car floats between New York and Troy would not be much, if any, greater than the present cost of lightering freight to the steamships after arrival by rail or water in New York City.

Quite a saving results from shipping heavy bulk commodities by rail and water as against all rail, as, for example:

Shipments of 100 tons lumber.

	Per 100 pounds.	Total cost.
Hoosac Tunnel, Massachusetts to New York:	<i>Cents.</i>	
All rail.....	14 ⁵ / ₈	\$296.65
Rail and water—		
To Troy.....	6 ¹ / ₂	
Beyond.....	5	
Total.....	11 ¹ / ₂	226.66

Saving in the transaction \$69.99 in shipping by water as against rail.

Shipment of 100 tons granite.

	Per net ton.	Total cost.
Milford, N. H., to New York City:		
All rail.....	\$2. 50	\$250.00
Rail and water—		
To Troy.....	1.07 ¹ / ₂	
Transfer.....	.25	
Beyond.....	.80	
Through.....	2.12 ¹ / ₂	212.50

Saving by water as against rail, \$36.50.

It seems reasonable to believe that with the completion of the barge canal, the construction of the system of internal waterways along the coast, as now contemplated by the Government, and by the completion of a sheltered waterway between Norfolk and New York, that the Hudson River is destined to become a great highway of commerce, the usefulness of which will be greatly increased when the Panama Canal is opened and Pacific coast products can be shipped to much greater advantage by water to the Great Lakes, and that Troy, with a proper harbor and harbor facilities, will become a great water terminal and shipping port.

It is not a matter of possibility or of probability, but a practical certainty.

Contrasted with such a prospect, the river is now a menace to boats and a daily loss and tax upon our merchants.

It is, however, apparent that without waiting for the completion of these great works Troy now, from its natural situation and with its present railroad and water connections, has a great opportunity to develop a river commerce to and from New England and the north, and to and from the great West.

Note the following statement showing territory naturally tributary to Troy:

Counties of State of New York bordering on Erie Canal (351 miles long) and population in 1905:

	Population.
Albany.....	171, 497
Cayuga.....	65, 309
Erie.....	473, 700
Herkimer.....	53, 856
Madison.....	39, 690
Monroe.....	239, 434
Montgomery.....	49, 928
Niagara.....	84, 744
Onondaga.....	178, 441
Oneida.....	139, 341
Orleans.....	31, 323
Saratoga.....	62, 658
Schenectady.....	71, 334
Wayne.....	48, 567
Total.....	1, 709, 819
Counties bordering on Champlain Canal (73 miles):	
Rensselaer.....	122, 637
Saratoga.....	62, 658
Warren.....	31, 395
Washington.....	47, 376
Total.....	264, 066
Counties bordering on Lake Champlain:	
Essex.....	32, 452
Clinton.....	47, 282
Total.....	79, 734
Total New York State.....	2, 053, 619
Counties in Vermont bordering on Lake Champlain whose natural market is Troy and vicinity (Census of 1900):	
Addison.....	21, 912
Chittenden.....	39, 600
Franklin.....	30, 198
	91, 710
Add 10 per cent.....	9, 171
Total.....	100, 881
Other counties in Vermont whose natural market is Troy and vicinity (census of 1900):	
Bennington.....	21, 705
Rutland.....	44, 209
Orange.....	19, 313
Washington.....	36, 607
Lamoille.....	12, 289
	134, 123
Add 10 per cent.....	13, 412
Total.....	147, 535

Counties of western Massachusetts whose nearest waterway and market is Troy (census of 1900):

	Population.
Berkshire	95, 667
Hampshire.....	175, 603
Franklin.....	41, 209
	<hr/>
	312, 479
Add 10 per cent.....	31, 247
	<hr/>
Total.....	343, 726
	<hr/>
Grand total.....	2, 645, 761

Great quantities of stone, lumber, potatoes, and other bulk freight are shipped from New England to New York, and raw materials for the New England paper, cloth and other manufacturing industries are moved in the reverse direction.

Sand, coal, stone, and lumber come from the South, and great quantities of merchandise are sent from the North to southern points. The products of the great Northwest are seeking an outlet through the new barge canal.

Troy wants this commerce. The natural route for this traffic is by way of Troy. With an enlarged and improved river channel, the river open throughout the year, a harbor sufficient to accommodate boats of adequate capacity and of latest improved construction, with facilities for the convenient and economical warehousing and transfer of freight between boats and cars and warehouses, the great proportion of this immense traffic would use Troy as a port and Troy would become a great river terminal.

This consummation would not only benefit every man, woman, and child in Troy, but would bring prosperity to the numerous cities and villages to the north, east, and west within a radius of many miles.

The river is here. There are several miles of water front capable of an expansive development consistent with the largest requirements for handling and storing freight. The possibilities are beyond present calculation, but the facilities and resources for meeting these possibilities are ample.

Thus far we have considered the reasons why Congress should aid Troy for commercial reasons. Much may be said to persuade the War Department to urge the improvement of river conditions here for strategic reasons.

History is replete with patriotic events, the result of which depended largely upon the advantages of this geographic locality. Many of the decisive battles of the Revolution were fought within 30 miles of Troy. The story of the Revolution demonstrates the importance of the waterways between New York and Montreal for military purposes. Should occasion ever again arise, the existence here of proper facilities for the storage of supplies, the mobilization and movement of troops and munitions of war, would be of inestimable value.

The citizens and municipality of Troy will cooperate with the Federal Government and supplement all improvements it will make by meeting the requirements which you say Congress imposes as a condition of spending the people's money.

In order that you may have perfect assurance of the attitude and willingness of our chamber of commerce, the corporation of the city of Troy, and our citizens generally in all these respects, upon which you may rely in the preparation of the report which you will make under the river and harbor act of March 3, 1909, we beg leave to refer to the action of the common council of our city taken July 1, 1909, a certified copy of which, with the personally signed approval of our mayor thereof, is hereto attached and made a part hereof, and to say that the undersigned, by a resolution duly adopted by the directors of our chamber of commerce, has appointed a strong committee of representative citizens upon harbor facilities, whose duty it will be to secure such local cooperation as the Federal Government may require, and to urge in all proper ways the needs of our community with respect to river and harbor improvements at Troy.

We welcome and invite your suggestions, and will cheerfully forward such additional information as you may desire, or that we may be able.

Yours, very respectfully,

E. W. DOUGLAS,
President of the Chamber of Commerce.

Col. W. M. BLACK,
Corps of Engineers, New York, N. Y.

EXTRACTS FROM LETTERS RELATING TO IMPROVEMENT OF HUDSON RIVER, NEW YORK.

Plan outlined by War Department would give decided advantages to shipping over present conditions. Keeping channel open throughout entire year would increase our shipments by at least 30 per cent. Our shipping by water would be very largely increased if conditions at Troy for shipping by water were improved.

HALL, HARTWELL & COMPANY.

Present water front of Troy from Ferry street to Breaker Island Point is a menace to safe navigation to and from present docks, as well as to vessels and tows going up and down the river; boats sunk and often strained by going aground over the bar in front of docks from Ferry street to Burden's and the old Corning steel works. (See letter.)

ALBANY TOWING COMPANY.

Present depth of channel makes it impossible for us to ship from our own dock, and we only obtain a very limited amount of raw material by water; must pay a little higher prices for raw material on account of small boat loads which we can get up to our dock, and then only get boats certain times of the year. Our raw material is brought to us by rail on account of shallowness of the channel. With channel of proper depth we could bring it all. Consists of iron, pig iron, and sand. Send weekly carloads of valves and hydrants by boat, which could be sent from our docks. Larger boats could come up the river under their own power, also larger canal boats and barges, which would enable dock owners and others situated back of dock line to bring up raw material in larger quantities. Great saving in freight. If we could ship directly from our docks we could save 40 to 50 cents a ton.

LUDLOW VALVE MFG. Co.

Ability to load boats at all stages of river would be an advantage. Large boats can not come up to our dock; small ones come up with difficulty. We lost a boat in 1906. Struck a rock. Total loss. Transportation by river being so precarious and expensive because of high rate charged to handle cargoes under dangerous conditions.

MCLEOD & HENRY.

We have difficulty in using our water facilities. Now we receive only 40 or 45 tons as against 40,000 and 50,000 tons formerly. Once we could lease a portion of our dock at advantageous terms. Because unfavorable conditions, impossibility to bring fully loaded boats to the dock, increased freight rates due to this cause, fear of river men that their boats may be stranded and possibly lost, the tonnage passing over our dock has shrunk to practically nothing. Our rentals have dwindled until they are now practically nominal.

FULLER & WARREN Co.

It would be to our advantage to have river improvements made; it would increase our business to considerable extent. Our tonnage which now comes by cars with proper river facilities could come by water.

AIRD-DON COMPANY.

If the channel would be kept open in the winter, the freight which we give to railroads would go by boats.

TOLHURST MACHINE WORKS.

With proper terminal facilities we would receive 3,000 tons per year.

UNITED WASTE MFG. Co.

With improvements by water we could ship between 600 and 700 carloads of an average of over 30,000 pounds.

WILLIAM CONNORS PAINT MFG. Co.

With proper shipping facilities a large proportion of our goods for the South, as well as for New York and the Atlantic coast, could be shipped by water, and we would be glad of the opportunity, as rates by water are considerably less than by rail.

UNITED SHIRT AND COLLAR Co.

The river in its present condition is absolutely useless. We can put on only about half the capacity of any boat sent here to be loaded. Boatmen refuse to carry half loads for less money than the whole load would cost. This increases freight rates 100 per cent. With proper facilities we could make shipment by water. Troy, being the head of navigation, should command all the shipping from the surrounding territory.

TROY FIREPROOFING COMPANY.

We are dependent in the spring, summer, and fall months on the river. We can not get things by railroad in time. Have a heavy out-of-town business and must get our goods early every morning to ship on trains north and west. In the winter we are subject to serious inconvenience by delays on the railroads. Would like improvements.

STOUT & METCALFE, *Fruit Merchants*.

With proper facilities our river tonnage would be increased from 3,000 to 4,000 tons.

ANDREW RUFF'S SONS.

We receive all our coal by rail. It could come by boat.

JOHN A. MANNING PAPER COMPANY.

A public harbor would increase competition with the railroads and result in reducing rates. Better transportation facilities would be an inducement to new concerns to locate in Troy.

JOHN LEGGETT & SON.

Improvement of river facilities would increase river tonnage.

CRAVER, COWEE & BAXTER.

At times we have great difficulty in unloading at our dock. We are obliged to bring in coal by rail in consequence. Improvement of river conditions would be a great benefit to us and to business interests of Troy.

BREWSTER & ABBOTT.

Have not used the river to any extent in past years. Our produce comes by rail, but it could come by water.

BOUTWELL MILLING & GRAIN Co.

We experience great delay in getting goods because of shallow water; because of inability to load satisfactorily, due to low water, prospective sales of ice in the summer have been canceled.

B. COOPER ICE COMPANY.

A RESOLUTION PASSED BY THE COMMON COUNCIL OF THE CITY OF TROY, N. Y., AT A MEETING OF SAID COUNCIL HELD ON THE 1ST DAY OF JULY, 1909.

By Alderman Owen—

Whereas the commercial interests and the future prosperity of the city of Troy imperatively require that better and adequate facilities be afforded for Hudson River navigation; and

Whereas the present channel established by the General Government is located at some distance from the dock line, by reason of which fact the shipment of freight by river has been delayed, and in many instances entirely prevented; and

Whereas the freight tonnage of Troy, which is preeminently a commercial and manufacturing city, is now very great, although it has been handicapped by insufficient river accommodations; and

Whereas the city of Troy, situated at the head of tidewater on the Hudson River and also at the termini of the enlarged Erie and Champlain canals, with a river frontage of several miles and connected by extensive railroad systems with the West, with the New England States and with northern New York and Canada, has surpassing advantages as a point for the reception, storage, handling, and transshipment of freight; and

Whereas it is represented that Congress may provide a comprehensive plan and may make sufficient appropriations for the improvement of the river and for the establishment of a port or harbor if satisfied that existing and prospective conditions of commerce will warrant the expense, and that the city of Troy will take suitable part and give aid in preserving the work that may be done and furnishing facilities to those who desire to make commercial use of the river: Now therefore be it

Resolved, By the common council of the city of Troy, speaking in the name and on behalf of the city, that if the General Government shall take measures for the widening, deepening, and improvement of the existing channel up to the harbor line and so that vessels may readily land at the docks, the city of Troy will give aid and encouragement to the work thus undertaken and to the creation and maintenance of a port and harbor at this city in the following ways, to wit:

1. By securing and maintaining public docks, where vessels and boats of all kinds may load and unload their freight and which shall be equipped with adequate appliances for that purpose.

2. By building and maintaining suitable and sufficient warehouses for the storage of freight if privately owned warehouses shall not be sufficient for the purpose.

3. By enforcing laws and ordinances prohibiting the obstruction of the channel by refuse being placed upon the adjoining premises and thence washed into the river.

4. By such a system of dredging as will remove from the river, and thus maintain its depth, the gravel or refuse which may pass into the river from the public sewers or the creeks flowing within the corporate boundaries; and be it further

Resolved, That we hereby request the War Department and the Congress of the United States to take measures looking toward the furnishing of increased facilities for navigation and business upon this important highway of commerce and the creation of a highway at the city of Troy; and be it further

Resolved, That the mayor is hereby requested to approve these resolutions and to forward the same to the officers of the National Government in charge of the Hudson River improvement, to the Senators from this State, and to the Member of Congress from this district.

Enrolled and attested by the president of the common council and by the clerk of the common council this 15th day of July, 1909.

[SEAL.]

ANDREW P. MCKEAN,
President.

ANDREW E. DELANEY,
Clerk.

I hereby approve of the foregoing resolutions of the common council of the city of Troy.

ELIAS P. MANN,
Mayor of the City of Troy.

Dated JULY 16, 1909.

LETTER OF THE TROY HYDRAULIC COMPANY.

TROY, N. Y., *December 31, 1909.*

DEAR SIR: Replying to yours of the 27th instant, asking if we can help you in getting information in regard to the water rights at Troy dam, we have the honor to state:

Chapter 203, laws of 1826, is entitled "An act to incorporate the Lansingburgh Dry Dock and Hydraulic Company." By this act a corporation was created and, among other things, was declared to be capable in law of taking and holding, by lease or otherwise, either from the State or individuals, as the case may be, such lands and waters as may be necessary for the accommodation and furtherance of their business.

In 1835 chapter 187 was passed, by virtue of which the corporate name was changed to "Troy Hydraulic Company," and by section 2 of that act it was provided that so much of the original act as required the corporation to construct one or more dry or wet docks, basins, or other works to be connected therewith was repealed.

The corporation named did construct, and has ever since maintained, the canal now existing between River street and the Hudson River, and which receives the waters passing through it by reason of the construction and maintenance of the State dam.

In 1832 an indenture was entered into between the people of the State of New York by the canal commissioners as parties of the first part, and said Lansingburgh Dry Dock and Hydraulic Company as party of the second part, by virtue of which the people of the State demised and leased unto the company the use of the surplus water which may be taken at the east end of the State dam mentioned in said lease. That instrument has ever since been in force and the company has ever since paid to the State the rent specified in said lease. We inclose herewith a copy of that lease. We understand that one of like character was entered into between the people and George Tibbits in 1835 for the leasing and use of the surplus waters of the Hudson River to be taken at the west end of the dam, and that that lease has ever since been in force.

In 1887 a bill was presented in the legislature of this State to provide for the construction of a fishway in the State dam. The Hydraulic Company, believing that the bill as presented was an invasion of their vested rights, opposed it and sought legal advice as to its rights and position under this lease. Hon. Edwin Countryman, of Albany, conceded to be one of the foremost lawyers of the State, gave the matter very full consideration and submitted an opinion, a copy of which we also herewith inclose. Hon. Benjamin H. Hall, one of the leading attorneys in this city, gave like opinion in regard to the lease in question.

The bill was brought to the attention of Governor Hill and the legal position of the Hydraulic Company was stated to him. It is fair to assume that he was impressed with the force of these opinions and of the position taken, for the bill was amended, and, as you will see by the copy which we send, recognizes and preserves the rights of the Hydraulic Company under this lease.

Acting under this lease, extensive mill buildings were erected for various purposes and they have ever since been operated by force of the water in the Hydraulic Company canal, which is a part of the surplus water of the river. Things have been so conducted that no complaint has been made by State officials that any water was taken from the river which was needed for the purpose of the canals. These manufacturing establishments give employment to many persons, a great deal of money has been invested in them, and they are of importance to the welfare of Troy.

The dam across the Hudson River is State property and it was constructed as a part of the canal system of the State. In our judgment it should continue to be maintained by the State as a part of the enlarged canal system. Indeed, it is necessary that it should be continued as a part of that system.

You suggested that a different location, higher up the river, is under consideration by officers of the National Government. Such a change would destroy the water powers of the establishments in question, unless the hydraulic canal was extended, which would be an expensive undertaking, and which, we think, would involve entering upon private property for a portion of the distance at least; and we can not now see what advantage is to be derived from making such a change.

The construction of a new dam, it seems to us, is not a part of the work of improving the Hudson River which should be undertaken by the National Government, for the reason that the dam is necessary only because of the canals owned and operated by the State. And if the channel of the river is taken care of by the Federal Government up to the dam, the State ought to maintain the dam which it has built for its purposes.

If we can be of any further service in the matter, you are welcome to call upon us.

Sincerely, yours,

The TROY HYDRAULIC COMPANY,
FREDERICK W. ORR, *Secretary*.

Mr. R. H. TALCOTT,
U. S. Assistant Engineer, Albany, N. Y.

LETTER OF E. W. DOUGLAS.

CHAMBER OF COMMERCE,
Troy, N. Y., January 8, 1910.

DEAR SIR: Pursuant to my understanding with you yesterday, I assembled this morning our harbor facilities committee and was instructed by them to inform you that for use in the preparation of the report which you will forward to the Chief of Engineers of the United States Army you may state that the city of Troy will undertake to expend not less than \$500,000, if necessary, within two years, for the purpose of providing suitable terminal structures and facilities to supplement the work and improvements which are being made and contemplated by the National and State governments at the city of Troy, and that it will forthwith seek to procure necessary and proper legislation for such purpose.

I have also communicated the above information to Mr. Talcott, as requested by you.

Yours, very truly,

E. W. DOUGLAS.

Col. W. M. BLACK,
Corps of Engineers, New York, N. Y.

LEASE OF LANSINGBURGH DRY DOCK AND HYDRAULIC COMPANY.

This indenture, made the second day of January, in the year of our Lord one thousand eight hundred and thirty-two, between the people of the State of New York by the Canal Commissioners, parties of the first part, and the Lansingburgh Dry Dock and Hydraulic Company, of the second part.

Whereas application was made by the Lansingburgh Dry Dock and Hydraulic Company to the Canal Commissioners for a lease of the surplus waters created by the erection of the State dam in the Hudson River above the city of Troy, to be used on the land of said company at the east end of said dam; and

Whereas the Canal Commissioners did, in pursuance of section eighty-seven of title nine of the ninth chapter of the first part of the revised statutes, direct the canal appraisers to estimate the annual value of the surplus water which may be taken at the east end of the aforesaid dam, and not exceeding one-half of the quantity which may be taken at both ends of said dam, for the term of nine hundred and ninety-nine years; and

Whereas the canal appraisers did estimate the annual value of the use of such water at the sum of fifty dollars for the first year, with an increase of fifty dollars a year for every year thereafter until it amounts to the sum of three hundred dollars a year, and then to continue at the said sum of three hundred dollars a year for the remainder of said term; now, therefore, this indenture witnesseth that the said party of the first part, by the said Canal Commissioners, for and in consideration of the rents, covenants, conditions, and reservations hereinafter contained, have demised, leased, and to farm let, and do by these presents demise, lease and to farm let, unto the said parties of the second part, the use of the surplus water which may be taken at the east end of the aforesaid dam, and not exceeding one-half of the quantity which may be taken at both ends of said dam, such surplus water to be taken and drawn from the said dam at such place and in such manner, and be discharged at such place and in such manner, as the acting Canal Commissioner or the Canal Commissioners shall from time to time direct, saving and reserving to the said parties of the first part the right wholly to resume the waters hereby conveyed and the privileges hereby granted, and to control and limit the use of said water and privileges whenever, in the opinion of the Canal Board or of the legislature the necessary supply of water for use of any State canal, or the safety of such canal, or works connected therewith, shall render such resumption, control, or limitation necessary.

And in case any such resumption shall be made, or control or limitation imposed, no compensation or damages shall be allowed for any improvements or erections made, or which may be made, under or in consequence of this grant or lease. And also saving and reserving to the said parties of the first part the right, without making any compensation to the said parties of the second part, or any other person claiming under them, wholly to abandon or destroy the work, by the construction of which the said surplus water has been created, whenever, in the opinion of the Canal Commissioners, the occupation and use of the said work shall cease to be advantageous to the State.

To have and to hold the rights, liberties, and privileges aforesaid, subject to the covenants, conditions, and reservations herein contained, unto the said parties of the second part, their successors or assigns, for and during and until the full end and term of nine hundred and ninety-nine years, fully to be completed and ended, yielding and paying therefor, to the said parties of the first part, the clear annual rent of fifty dollars for the first year, one hundred dollars for the second year, one hundred and fifty dollars for the third year, two hundred dollars for the fourth year, two hundred and fifty dollars for the fifth year, and three hundred dollars for every year thereafter, to be paid to the commissioners of the canal fund at the expiration of each and every year during the continuance of this present demise.

And the said parties of the second part, for themselves, their successors and assigns, do hereby covenant and agree to and with the said parties of the first part, that they will in all things well and truly observe, perform, and fulfill all things herein contained on their part and behalf to be observed, performed, or fulfilled, and that they will annually pay to the commissioners of the canal fund the rent above reserved; provided always, and these presents and everything herein contained are upon this express condition, that if the said annual rent shall at any time remain unpaid for one year after it shall become due, this grant or lease shall become forfeited to the people of the State.

In witness whereof the Canal Commissioners, on behalf of the said parties of the first part and the said parties of the second part, have hereunto set their hands and affixed their seals the day and year first above written.

S. YOUNG, [L. S.]
 WM. C. BOUCK, [L. S.]
 JONAS EARLE, Jr., [L. S.]
Canal Commissioners.

NATHAN WARREN, [L. S.]
President Lansingburgh Dry Dock Company.

Sealed and delivered in the presence of John B. Staats.

STATE OF NEW YORK, *Albany County*, ss:

I hereby certify that on the 21st day of February, 1832, personally appeared before me, Samuel Young, William C. Bouck, and Jonas Earll, jr., and Nathan Warren, the three former to me known to be the Canal Commissioners, and the same persons described in and who executed the annexed deed as such commissioners, and the said Nathan Warren to me known to be the president of the Lansingburgh Dry Dock and Hydraulic Company, and the person described in said deed as such, and the seal affixed to such deed to be the seal of said company; and they severally acknowledged they executed the same in their representative capacities for the uses and purposes therein mentioned.

JAMES L'AMOUREAUX,
First Judge Albany Com. Pleas,
Counselor in Supreme Court.

LEASE FOR WATER AT TROY DAM, WEST END.

This indenture, made the twenty-sixth day of November, in the year of our Lord one thousand eight hundred and thirty-five, between the people of the State of New York, by the Canal Commissioners, parties of the first part, and George Tibbits, of the city of Troy, in the county of Rensselaer, and State of New York, party of the second part.

Whereas the canal board, on the application of George Tibbits for a lease of the surplus water of the Hudson River, at the west end of the Troy dam, did, on the thirty-first day of March, one thousand eight hundred and thirty-five, pass a resolution directing the said surplus water, not exceeding one-half of the same, to be leased to him for the term of nine hundred and ninety-nine years, and that the Canal Commissioners direct the canal appraisers to estimate the value of the use of such waters, agreeable to the provisions of title nine, chapter nine, part first, of the Revised Statutes.

And whereas the Canal Commissioners, in obedience to said resolution, having requested the canal appraisers to estimate and appraise the value of the said surplus water, according to the terms of the said resolution above referred to.

And whereas the canal appraisers did, on the twenty-seventh day of October, one thousand eight hundred and thirty-five, estimate the annual value of one-half of the surplus water of the Hudson River to be taken at the west end of the Troy dam at fifty dollars for the first year, to increase fifty dollars each and every year thereafter, until it amounts to the sum of two hundred and fifty dollars for the remainder of the term specified in the resolution of the canal board above referred to.

Now, therefore, this indenture witnesseth, that the said parties of the first part, by the said Canal Commissioners, for and in consideration of the rents, covenants, conditions and reservations hereinafter contained, have demised, leased and to farm let, and by these presents demise, lease and to farm let, unto the said party of the second part, the surplus water of the Hudson River, at the west end of the Troy dam, not exceeding one-half of the said surplus water of said river at said dam, said surplus water to be taken and drawn from the said dam, or from the pond above the said dam, at such place and in such manner, and be discharged at such place and in such manner, as the acting Canal Commissioner or the Canal Commissioners shall from time to time direct, securing and reserving to the said parties of the first part, the right wholly to resume the water hereby conveyed and the privileges hereby granted, and to control and limit the use of the said water and privileges whenever, in the opinion of the canal board or of the legislature, the necessary surplus water for the use of any State canal, or the safety of such canal or works connected therewith, shall render such resumption, control or limitation necessary.

And in case any such resumption shall be made, or limitation or control be imposed, no compensation or damages shall be allowed for any improvements or erections made, or which may be made, under or in consequence of this grant or lease, and also saving and reserving to the said parties of the first part the right, without making any compensation to the said party of the second part, or any other person claiming under him, wholly to abandon or destroy the work, by the construction of which the said surplus water has been created, whenever, in the opinion of the Canal Commissioner, the occupation and use of the said work shall cease to be advantageous to the State; to have and to hold the rights, liberties, and privileges aforesaid, subject to covenants, conditions, and reservations herein contained unto the said party of the second part, his executors, administrators, and assigns, for and during and until the full end and term, nine hundred and ninety-nine years, fully to be completed and ended, yielding and paying therefor to the said parties of the first part the clear annual rent at which the use of said water was appraised as aforesaid; that is to say, at the expiration of one year from the first day of May next fifty dollars, for the second year one hundred dollars, for the third year one hundred and fifty dollars, for the fourth year two hundred dollars, and two hundred and fifty dollars at the expiration of each and every year thereafter, to be paid to the commissioners of the canal fund during the continuance of this present demise.

And the said party of the second part, for himself, his executors, administrators, and assigns, doth hereby covenant and agree to and with the said parties of the first part that he will in all things well and truly observe, perform, and fulfill all things herein contained on his part and behalf to be observed, performed, or fulfilled, and that he will annually pay to the commissioners of the canal fund the rent above reserved; provided, always, and these presents and everything herein contained are upon this express condition, that if the said annual rent shall at any time remain unpaid for one year after it shall become due, this grant or lease shall become forfeited to the people of the State.

In witness whereof the said Canal Commissioners, on behalf of said parties of the first part, and the said party of the second part have hereunto set their hands and affixed their seals the day and year first above written.

JONAS EARLE, Jr.	[L. S.]
WM. C. BOUCK.	[L. S.]
JOHN BOWMAN.	[L. S.]
GEORGE TIBBITS.	[L. S.]

Sealed and delivered in the presence of James H. Mallory.

CITY AND COUNTY OF ALBANY, ss:

On this 13th day of January, 1836, before me personally came James H. Mallory, known to me, and who being by me duly sworn did depose and say, that he is a resident of the city and county of Albany; that he was present and saw Jonas Earll, jr., Wm. C. Bouck, John Bowman, and George Tibbits, named and described in the foregoing lease, execute and deliver, and acknowledge the same as their act and deed; that he knows the said Jonas Earll, jr., William C. Bouck, John Bowman, and George Tibbits to be the persons described in and who executed the said lease; and that he, the deponent, subscribed his name as a witness to such execution thereof, which being to me satisfactory evidence of the execution of said lease, I allow it to be recorded.

ANTHONY GOULD, *Commissioner*.

(Copy of the deed.)

Recorded in the Albany County clerk's office, January 13, 1836, at 1 p. m., in book 51 of deeds, page 402, etc.

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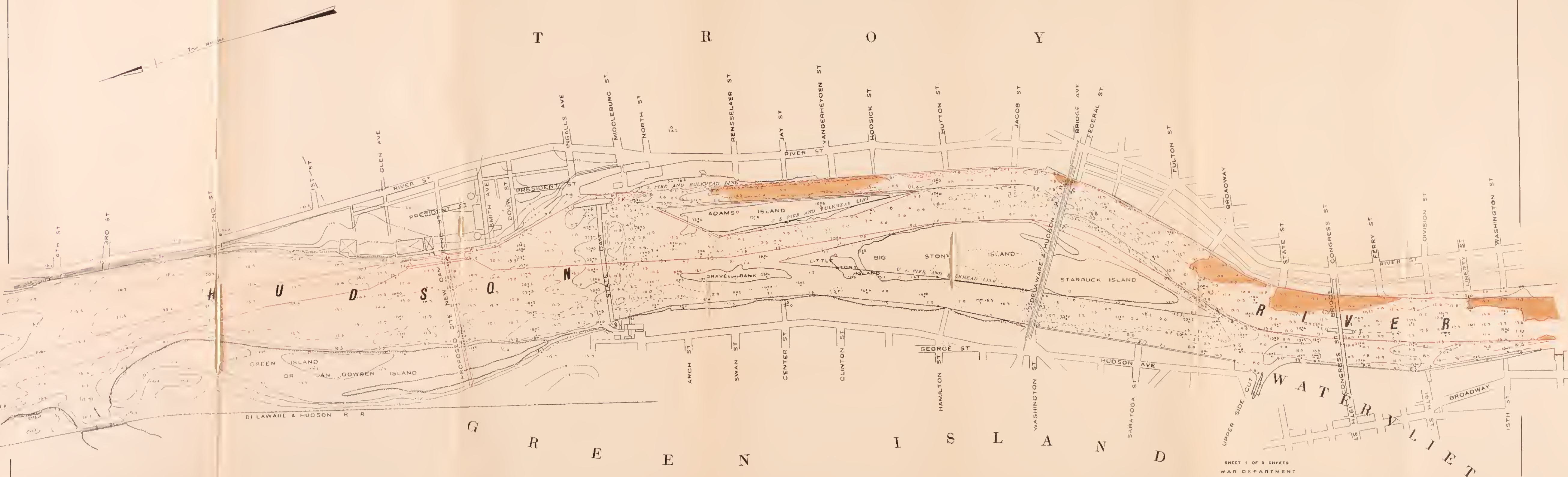
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SHEET 1 OF 2 SHEETS
WAR DEPARTMENT

UNITED STATES ENGINEER OFFICE, DISTRICT NO. 1, NEW YORK

HUDSON RIVER NEW YORK

SHOWING

IMPROVEMENT PROPOSED BETWEEN WATERFORD AND THE HEAD OF
BREAKER ISLAND INCLUDING LOCATION OF NEW LOCK AND DAM AND
APPROACHES THERETO.

MADE IN COMPLIANCE WITH RIVER AND HARBOR ACT, APPROVED MARCH 3, 1909
FROM SURVEYS OF 1909

SCALE OF FEET
0 500 1000 1500

PREPARED UNDER THE DIRECTION OF
COLONEL W. M. BLACK, CHIEF OF ENGINEERS U. S. ARMY
ASSISTANTS

R. H. TALCOTT, ASST. ENGR. G. W. RUENNEL, ASST. ENGR.
DRAFTING BY
J. P. WATKINS, DRAFTSMAN
FIELD WORK BY
G. W. RUENNEL, ASST. ENGR.
J. E. BYRON, SURVEYOR.

UNITED STATES ENGINEER OFFICE, DISTRICT NO. 1, NEW YORK
ROOM 702 ARMY BUILDING

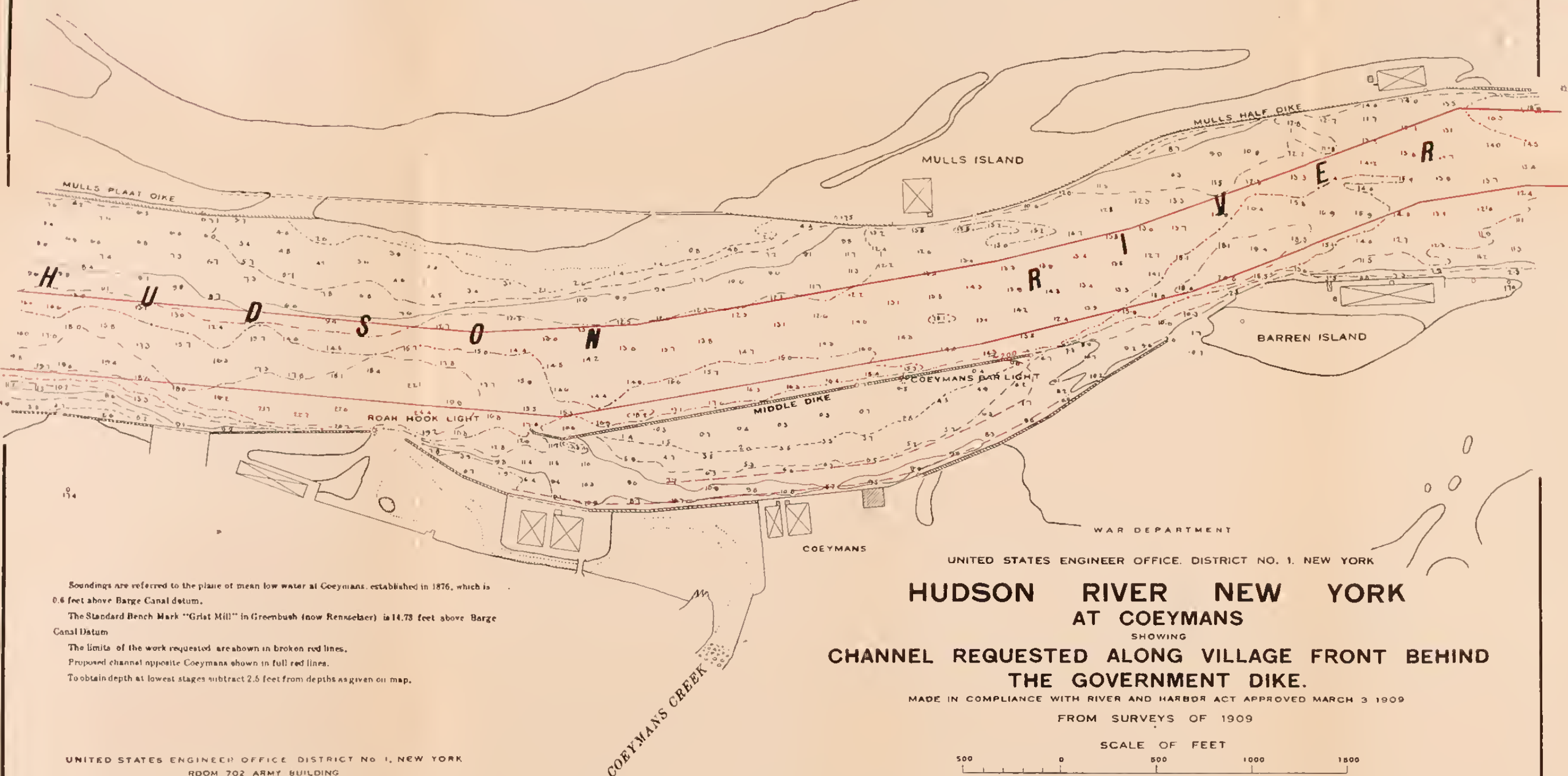
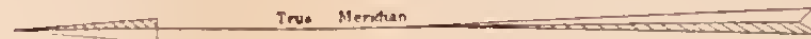
NEW YORK, N. Y., JAN 10, 1910

RESPECTFULLY FORWARDED TO THE CHIEF OF ENGINEERS
WITH REPORT OF THIS DATE

W. M. Black
COLONEL CORPS OF ENGINEERS U. S. ARMY

Soundings above the State Dam are reduced to a plane 15.2 feet above Barge Canal datum, which is the elevation proposed for the crest of the new dam.
The assumed plane of lowest stage below the dam is 0.6 feet below Barge Canal datum.
The Standard Bench Mark (Great Mill) in Greenbush (now Rensselaer) is 14.73 feet above Barge Canal datum.
If location of dam is changed depths between new site and existing state dam at lowest stages can be found by subtracting 15.8 feet from depths as given.
Soundings between State Dam and Delaware and Hudson bridge are reduced to the plane of mean low water as established in 1899, or 1.6 feet above Barge Canal datum. To determine depths at lowest stage subtract 2.2 feet from depths given on map.
Soundings below the Delaware and Hudson Bridge are reduced to the plane of mean low water established in 1876, or 2.0 feet above Barge Canal datum. To determine depths at lowest stage subtract 2.6 feet from depths shown on map.
The limits of the proposed through channel and lock and dam are shown in full red lines.
The broken red lines indicate limits of proposed widening of channel at Troy.

LOWER SCHODACK ISLAND



Soundings are referred to the plane of mean low water at Coeymans, established in 1876, which is 0.6 feet above Barge Canal datum.

The Standard Bench Mark "Grist Mill" in Greenbush (now Rensselaer) is 14.73 feet above Barge Canal Datum.

The limits of the work requested are shown in broken red lines.

Proposed channel opposite Coeymans shown in full red lines.

To obtain depth at lowest stages subtract 2.5 feet from depths as given on map.

UNITED STATES ENGINEER OFFICE DISTRICT NO. 1, NEW YORK
ROOM 702 ARMY BUILDING

NEW YORK N. Y. JAN. 10 1914.

RESPECTFULLY FORWARDED TO THE CHIEF OF ENGINEERS
WITH REPORT OF THIS DATE.

W. M. Black
COLONEL CORPS OF ENGINEERS U. S. ARMY

UNITED STATES ENGINEER OFFICE, DISTRICT NO. 1, NEW YORK

HUDSON RIVER NEW YORK AT COEYMANS

SHOWING
CHANNEL REQUESTED ALONG VILLAGE FRONT BEHIND
THE GOVERNMENT DIKE.

MADE IN COMPLIANCE WITH RIVER AND HARBOR ACT APPROVED MARCH 3 1909

FROM SURVEYS OF 1909

SCALE OF FEET



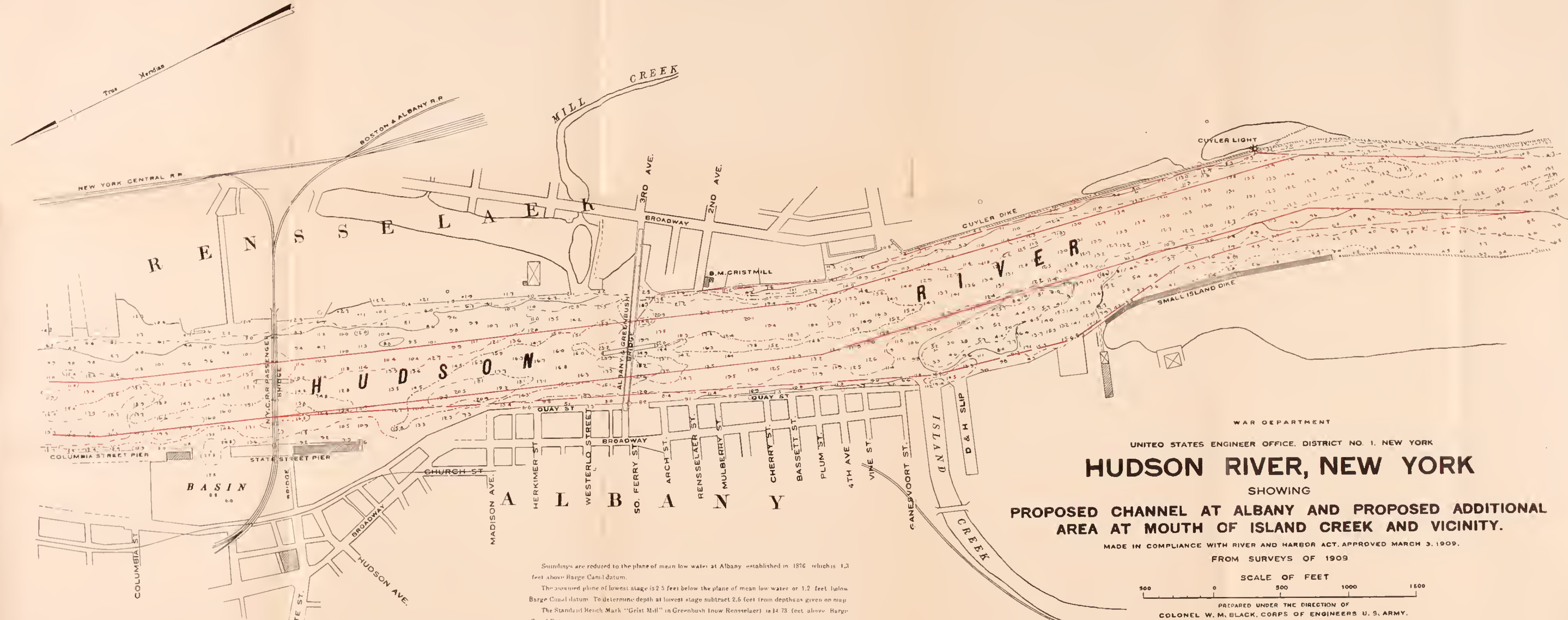
PREPARED UNDER THE DIRECTION OF
COLONEL W. M. BLACK, CORPS OF ENGINEERS U. S. ARMY

ASSISTANTS
R. H. YALCOTT, ASST. ENGR.

G. RUEHNLE, ASST. ENGR.

DRAFTING BY
J. P. MAYER, DRAFTSMAN

FIELD WORK BY
G. W. RUEHNLE, ASST. ENGR.
J. E. OYRON, SURVEYOR.



WAR DEPARTMENT
UNITED STATES ENGINEER OFFICE, DISTRICT NO. 1, NEW YORK
HUDSON RIVER, NEW YORK
SHOWING
**PROPOSED CHANNEL AT ALBANY AND PROPOSED ADDITIONAL
AREA AT MOUTH OF ISLAND CREEK AND VICINITY.**
MADE IN COMPLIANCE WITH RIVER AND HARBOR ACT, APPROVED MARCH 3, 1909.
FROM SURVEYS OF 1909



PREPARED UNDER THE DIRECTION OF
COLONEL W. M. BLACK, CORPS OF ENGINEERS U. S. ARMY.
ASSISTANTS
A. H. TALCOTT, ASST. ENGR **G. KUENNEL, ASST. ENGR.**
DRAFTING BY
J. P. NATER, DRAFTSMAN. FIELD WORK BY
O. W. KUENNEL, ASST. ENGR.
J. E. BYRON, SURVEYOR.

Soundings are reduced to the plane of mean low water at Albany established in 1816 which is 1.3 feet above Barge Canal datum.
The assumed plane of lowest stage is 2.5 feet below the plane of mean low water or 1.2 feet below Barge Canal datum. To determine depth at lowest stage subtract 2.5 feet from depths as given on map.
The Standard Bench Mark "Crist Mill" in Greenbush (now Rensselaer) is 14.73 feet above Barge Canal datum.
The proposed channel 400 feet wide is shown in full red lines and the limits of the proposed additional area are shown in broken red lines.

UNITED STATES ENGINEER OFFICE, DISTRICT NO. 1, NEW YORK
ROOM 702 ARMY BUILDING
NEW YORK, N. Y. JAN. 10th 1910

RESPECTFULLY FORWARDED TO THE CHIEF OF ENGINEERS
WITH REPORT OF THIS DATE.
W. M. Black
COLONEL CORPS OF ENGINEERS U. S. ARMY

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Box 93